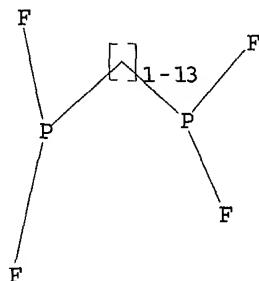


L Number	Hits	Search Text	DB	Time stamp
1	39	568/8.ccls. and (fluoro or fluoride)	USPAT; US-PPGPUB	2003/12/15 13:03
2	36	568/16.ccls. and (fluoro or fluoride)	USPAT; US-PPGPUB	2003/12/15 13:03

=>
Uploading 10084681.str

L1 STRUCTURE UPLOADED

=> d
L1 HAS NO ANSWERS
L1 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l1
SAMPLE SEARCH INITIATED 10:35:29 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 52 TO ITERATE

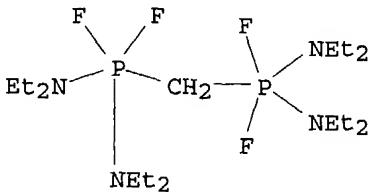
100.0% PROCESSED 52 ITERATIONS 5 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 608 TO 1472
PROJECTED ANSWERS: 5 TO 234

L2 5 SEA SSS SAM L1

=> d scan

L2 5 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Phosphoranediamine, 1,1'-methylenebis[N,N,N',N'-tetraethyl-1,1-difluoro-
(9CI)
MF C17 H42 F4 N4 P2



HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):0

=> s l1 full
FULL SEARCH INITIATED 10:35:40 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 949 TO ITERATE

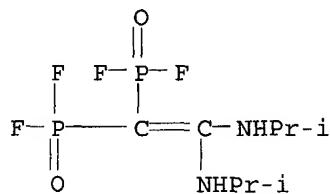
100.0% PROCESSED 949 ITERATIONS
SEARCH TIME: 00.00.01

71 ANSWERS

L3 71 SEA SSS FUL L1

=> d scan

L3 71 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Phosphonic difluoride, [bis[(1-methylethyl)amino]ethenylidene]bis- (9CI)
MF C8 H16 F4 N2 O2 P2



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

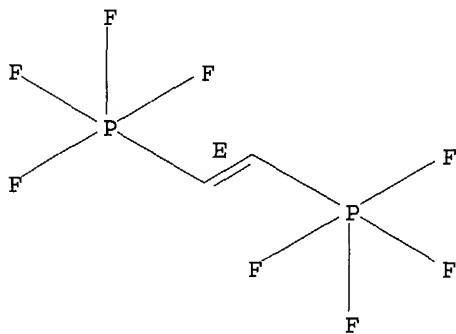
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=> s l3 not n/els
15752069 N/ELS
L4 60 L3 NOT N/ELS

=> d scan

L4 60 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Phosphorane, 1,2-ethenediylbis[tetrafluoro-, (E)- (9CI)
MF C2 H2 F8 P2

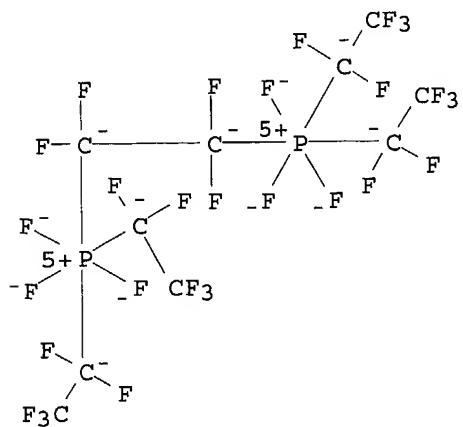
Double bond geometry as shown.



HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):10

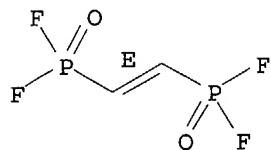
L4 60 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Phosphate(2-), hexafluorotetrakis(pentafluoroethyl)[.mu.-(1,1,2,2-tetrafluoro-1,2-ethanediyil)]di- (9CI)
MF C10 F30 P2

CI CCS, COM



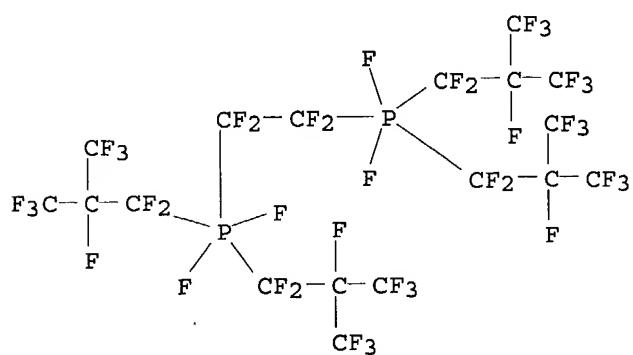
L4 60 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Phosphonic difluoride, 1,2-ethenediylbis-, (E)- (9CI)
MF C2 H2 F4 O2 P2

Double bond geometry as shown.

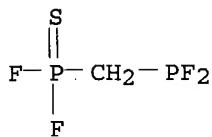


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L4 60 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Phosphorane, (1,1,2,2-tetrafluoro-1,2-ethanediyl)bis[difluorobis[1,1,2,3,3,3-hexafluoro-2-(trifluoromethyl)propyl]- (9CI)
MF C18 F44 P2

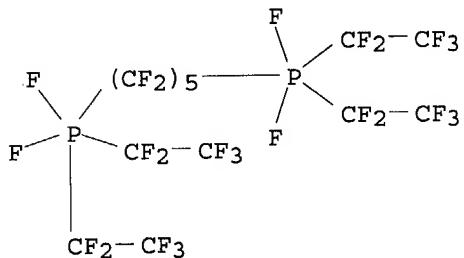


L4 60 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
 IN Phosphonothioic difluoride, [(difluorophosphino)methyl]- (9CI)
 MF C H2 F4 P2 S

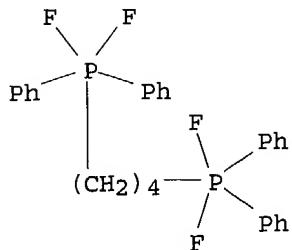


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

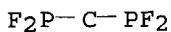
L4 60 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
 IN Phosphorane, (1,1,2,2,3,3,4,4,5,5-decafluoro-1,5-pentanediyi)bis[difluorobis(pentafluoroethyl)-, stereoisomer (9CI)
 MF C13 F34 P2



L4 60 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
 IN Phosphorane, 1,4-butanediylbis[difluorodiphenyl- (9CI)
 MF C28 H28 F4 P2

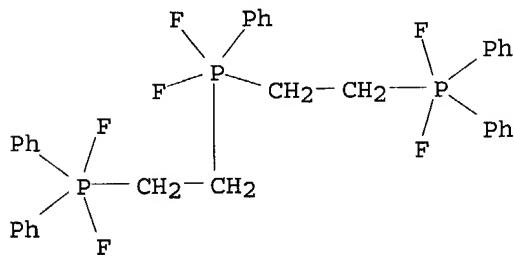


L4 60 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
 IN Methylene, bis(difluorophosphino)- (9CI)
 MF C F4 P2

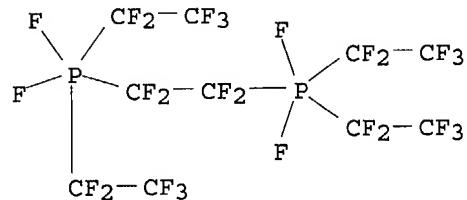


$F_2P-C-PF_2$

L4 60 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Phosphorane, bis[2-(difluorodiphenylphosphoranyl)ethyl]difluorophenyl-
(9CI)
MF C34 H33 F6 P3



L4 60 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Phosphorane, (1,1,2,2-tetrafluoro-1,2-ethanediyl)bis[difluorobis(pentafluo-
roethyl)-, stereoisomer (9CI)
MF C10 F28 P2



L4 60 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Phosphonous difluoride, methylenebis- (9CI)
MF C H2 F4 P2

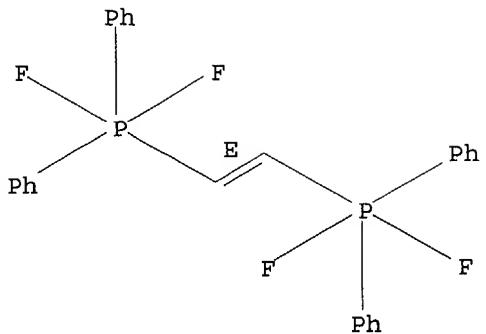
$F_2P-CH_2-PF_2$

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

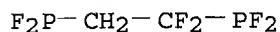
HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):10

L4 60 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Phosphorane, 1,2-ethenediylbis[difluorodiphenyl-, (E)- (9CI)
MF C26 H22 F4 P2

Double bond geometry as shown.

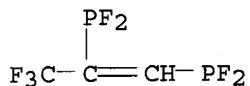


L4 60 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
 IN Phosphorous difluoride, (1,1-difluoro-1,2-ethanediyl)bis- (9CI)
 MF C2 H2 F6 P2



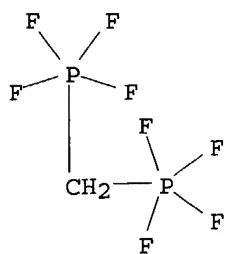
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L4 60 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
 IN Phosphorous difluoride, [1-(trifluoromethyl)-1,2-ethenediyl]bis- (9CI)
 MF C3 H F7 P2

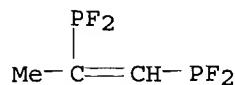


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L4 60 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
 IN Phosphorane, methylenebis[tetrafluoro- (9CI)
 MF C H2 F8 P2

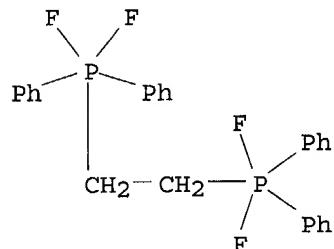


L4 60 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Phosphorous difluoride, (1-methyl-1,2-ethenediyl)bis- (9CI)
MF C3 H4 F4 P2



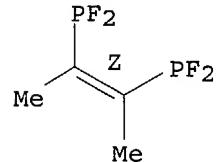
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L4 60 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Phosphorane, 1,2-ethanediylbis[difluorodiphenyl- (9CI)
MF C26 H24 F4 P2



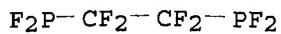
L4 60 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Phosphorous difluoride, (1,2-dimethyl-1,2-ethenediyl)bis-, (Z)- (9CI)
MF C4 H6 F4 P2

Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

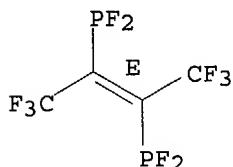
L4 60 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Phosphorous difluoride, (1,1,2,2-tetrafluoro-1,2-ethanediyil)bis- (9CI)
MF C2 F8 P2



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

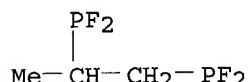
L4 60 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Phosphorous difluoride, [1,2-bis(trifluoromethyl)-1,2-ethenediyl]bis-,
(E) - (9CI)
MF C4 F10 P2

Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

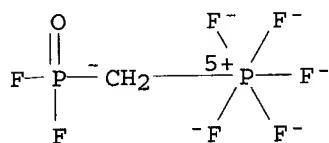
L4 60 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Phosphorous difluoride, (1-methyl-1,2-ethanediyl)bis- (9CI)
MF C3 H6 F4 P2



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):10

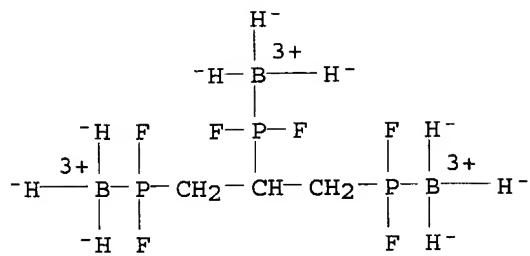
L4 60 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Phosphate(1-), [(difluorophosphinyl)methyl]pentafluoro-, potassium,
(OC-6-21) - (9CI)
MF C H2 F7 O P2 . K
CI CCS



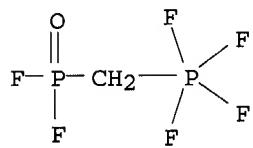
● K+

L4 60 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Boron, nonahydro[.mu.3-[1,2,3-propanetriyltris[phosphorous
difluoride]-P:P':P'']]tri- (9CI)

MF C3 H14 B3 F6 P3
CI CCS



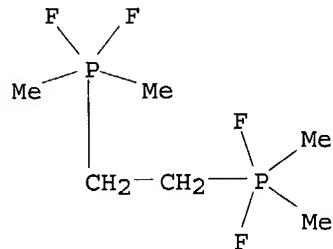
L4 60 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Phosphonic difluoride, [(tetrafluorophosphoranyl)methyl]- (9CI)
MF C H2 F6 O P2



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=> s l10
L11      34 L10

=> d hitstr 34
```

L11 ANSWER 34 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
IT 1682-01-5, Phosphorane, ethylenebis[difluorodimethyl-
 (prepn. and properties of)
RN 1682-01-5 CAPLUS
CN Phosphorane, ethylenebis[difluorodimethyl- (7CI, 8CI) (CA INDEX NAME)



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=> d ibib abs hitstr 1-10
```

L11 ANSWER 1 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2002:671919 CAPLUS
DOCUMENT NUMBER: 137:201439
TITLE: Electrochemical preparation of .alpha.,.omega.-
 bis(fluoroalkyl/fluorophosphorano)alkane
INVENTOR(S): Schmidt, Michael; Kuehner, Andreas; Ignatyev, Nikolai;
 Sartori, Peter
PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany
SOURCE: Eur. Pat. Appl., 10 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1236734	A1	20020904	EP 2002-2734	20020207
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
DE 10109756	A1	20020905	DE 2001-10109756	20010228
JP 2002255984	A2	20020911	JP 2001-297078	20010927
BR 2002000520	A	20021001	BR 2002-520	20020225
CN 1373133	A	20021009	CN 2002-105291	20020226
US 2002121446	A1	20020905	US 2002-84681	20020228

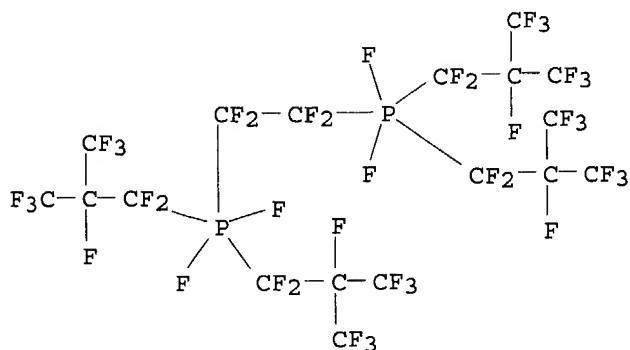
PRIORITY APPLN. INFO.: DE 2001-10109756 A 20010228

OTHER SOURCE(S): CASREACT 137:201439; MARPAT 137:201439
AB The electrochem. prepn. of title compds. is described. Thus, electrochem.
 fluorination of Et₂PCH₂CH₂PEt₂ with HF gave 23% (C₂F₅)₂PF₂CF₂CF₂P(C₂F₅)₂
 along-with tris(pentafluoroethyl)difluorophosphorane.

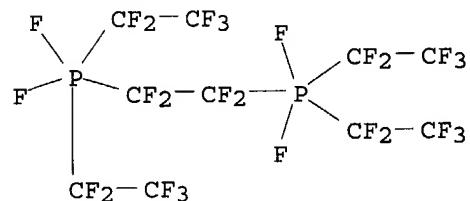
IT 454421-26-2P 454468-19-0P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of)

RN 454421-26-2 CAPLUS
CN Phosphorane, (1,1,2,2-tetrafluoro-1,2-ethanediyl)bis[difluorobis[1,1,2,3,3

,3-hexafluoro-2-(trifluoromethyl)propyl- (9CI) (CA INDEX NAME)



RN 454468-19-0 CAPLUS
CN Phosphorane, (1,1,2,2-tetrafluoro-1,2-ethanediyl)bis[difluorobis(pentafluoroethyl)-] (9CI) (CA INDEX NAME)



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 2 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2002:671916 CAPLUS
DOCUMENT NUMBER: 137:217076
TITLE: Preparation of fluoroalkylphosphate salts as electrolytes for primary and secondary batteries
INVENTOR(S): Schmidt, Michael; Kuehner, Andreas; Ignatyev, Nikolai; Satori, Peter
PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany
SOURCE: Eur. Pat. Appl., 26 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1236732	A1	20020904	EP 2002-1914	20020131
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
DE 10109032	A1	20020905	DE 2001-10109032	20010224
JP 2003034692	A2	20030207	JP 2001-301156	20010928
TW 527740	B	20030411	TW 2001-90133110	20011231
CN 1371911	A	20021002	CN 2002-105228	20020221
BR 2002000465	A	20021029	BR 2002-465	20020221
US 2002122979	A1	20020905	US 2002-80515	20020225
PRIORITY APPLN. INFO.:			DE 2001-10109032 A	20010224

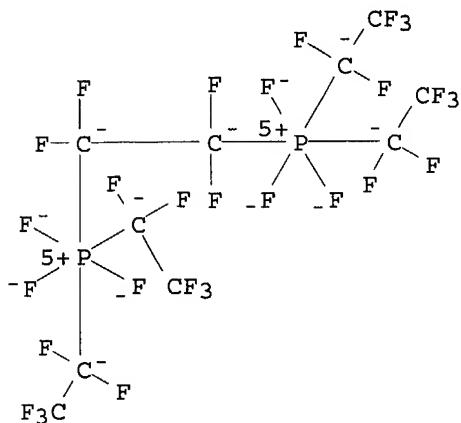
OTHER SOURCE(S): CASREACT 137:217076; MARPAT 137:217076
 AB The prepn. of title compds., useful as electrolytes for primary and secondary batteries, is described. Thus, reaction of LiF with perfluoro-1,2-bis(diethyldifluorophosphorano)ethane in a mixt. of ethylene carbonate/dimethyl carbonate/diethyl carbonate (solvent mixt.) gave the title compd., $2\text{Li}^+[(\text{C}_2\text{F}_5)_2\text{PF}_3(\text{CF}_2)_2\text{PF}_3(\text{C}_2\text{F}_5)]_2^-$, as a mixt. of stereoisomers. The oxidn. stability of the compd. prep'd. is given.

IT **454458-13-0P**

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
 (oxidn. stability; prepn. of fluoroalkylphosphate salts as electrolytes for primary and secondary batteries)

RN 454458-13-0 CAPLUS

CN Phosphate(2-), hexafluorotetrakis(pentafluoroethyl)[.mu.-(1,1,2,2-tetrafluoro-1,2-ethanediyl)]di-, dilithium (9CI) (CA INDEX NAME)



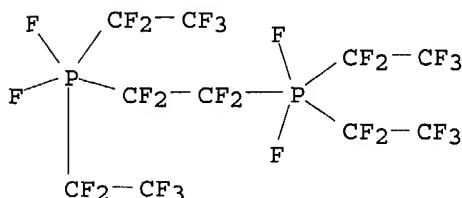
● 2 Li^+

IT **454468-19-0**

RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction with lithium fluoride)

RN 454468-19-0 CAPLUS

CN Phosphorane, (1,1,2,2-tetrafluoro-1,2-ethanediyl)bis[difluorobis(pentafluoroethyl)-] (9CI) (CA INDEX NAME)

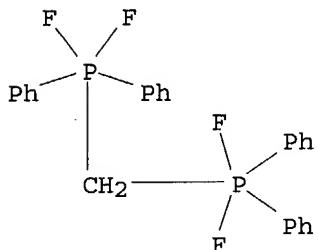


REFERENCE COUNT:

2

THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

DOCUMENT NUMBER: 136:6055
 TITLE: Interaction of some methylenediphosphines with hexafluoroacetone and hexafluorothioacetone dimer
 AUTHOR(S): Shevchenko, Igor V.; Mikolenko, Rostislav N.; Lork, Enno; Rosenthaler, Gerd-Volker
 CORPORATE SOURCE: Institute of Bioorganic Chemistry, Kiev, 02094, Ukraine
 SOURCE: European Journal of Inorganic Chemistry (2001), (9), 2377-2383
 CODEN: EJICFO; ISSN: 1434-1948
 PUBLISHER: Wiley-VCH Verlag GmbH
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 136:6055
 AB The reactions of methylenediphosphines with hexafluoroacetone (HFA) and hexafluorothioacetone dimer (HFTA) gave the resp. carbodiphosphoranes, e.g. $(CF_3)_2CHOPPh_2:C:PPh_2OCH(CF_3)_2$ (6), $(CF_3)_2CHSP(NEt_2)P:C:P(NEt_2)2SCH(CF_3)_2$ (15), and $(CF_3)_2CHSPPh_2:C:PPh_2SCH(CF_3)_2$ (19). The carbodiphosphoranes 6 and 19, with Ph groups at phosphorus, were able to react further with C:O or C:S functions. Compd. 6 added one equiv. of HFA across one of the ylidic P:C bonds to give compd. phosphoranylideneoxaphosphetane (9), a stable intermediate of the Wittig reaction. The addn. of HFTA to 19 gave, unexpectedly, the isomeric compd., $(CF_3)_2CHSPPh_2:C(PPh_2)SCH(CF_3)_2$ (21). The mol. structures of 9, 15, and 21 were confirmed by x-ray investigations.
 IT 26040-41-5P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of)
 RN 26040-41-5 CAPLUS
 CN Phosphorane, methylenebis[difluorodiphenyl-, stereoisomer (9CI) (CA INDEX NAME)



REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 4 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
 ACCESSION NUMBER: 2000:200705 CAPLUS
 DOCUMENT NUMBER: 133:4720
 TITLE: Solution phase direct fluorination of bridged alkyl di- and triphosphines
 AUTHOR(S): Kampa, J. J.; Nail, J. W.; Lagow, R. J.
 CORPORATE SOURCE: Department of Chemistry and Material Science, University of Texas at Austin, Austin, TX, USA
 SOURCE: Journal of Fluorine Chemistry (2000), 102(1-2), 333-335
 CODEN: JFLCAR; ISSN: 0022-1139
 PUBLISHER: Elsevier Science S.A.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 133:4720
 AB Perfluorinated phosphoranes with two P(V) centers, e.g., $[Rf_2PF_2CF_2]_2$ and

[CF₃CF₂PF₂CF₂CF₂]₂X (Rf = CF₃, CF₃CF₂, X = CF₂, O) were prep'd. via elemental fluorination in soln. Oxidn. sensitive a,w-bis(dialkylphosphino)alkanes are converted into the corresponding difluorophosphoranes. The F-19 and P-31 NMR are discussed. Addnl. characterization is provided by high and low resoln. mass spectrometry.

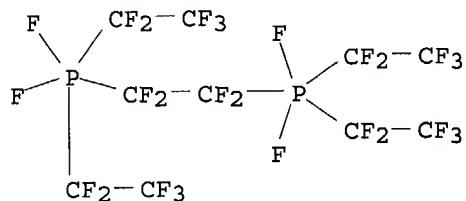
IT 166982-31-6P 270921-56-7P 270921-57-8P

270921-59-0P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

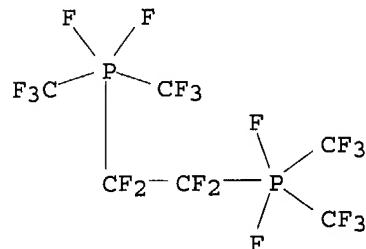
RN 166982-31-6 CAPLUS

CN Phosphorane, (1,1,2,2-tetrafluoro-1,2-ethanediyl)bis[difluorobis(pentafluoroethyl)-, stereoisomer (9CI) (CA INDEX NAME)



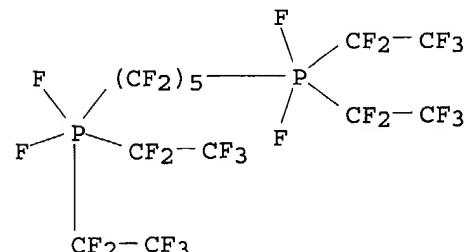
RN 270921-56-7 CAPLUS

CN Phosphorane, (1,1,2,2-tetrafluoro-1,2-ethanediyl)bis[difluorobis(trifluoromethyl)-, stereoisomer (9CI) (CA INDEX NAME)



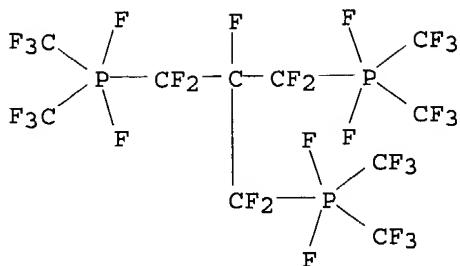
RN 270921-57-8 CAPLUS

CN Phosphorane, (1,1,2,2,3,3,4,4,5,5-decafluoro-1,5-pentanediyl)bis[difluorobis(pentafluoroethyl)-, stereoisomer (9CI) (CA INDEX NAME)



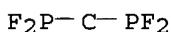
RN 270921-59-0 CAPLUS

CN Phosphorane, [2-[difluorobis(trifluoromethyl)phosphoranyl]difluoromethyl]-1,1,2,3,3-pentafluoro-1,3-propanediyl]bis[difluorobis(trifluoromethyl)-, stereoisomer (9CI) (CA INDEX NAME)



REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 5 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
 ACCESSION NUMBER: 2000:76147 CAPLUS
 DOCUMENT NUMBER: 132:194426
 TITLE: On the electronic properties of substituted phosphinylcarbenes
 AUTHOR(S): Schoeller, Wolfgang W.
 CORPORATE SOURCE: Fak. Chem., Univ. Bielefeld, Bielefeld, D-33501, Germany
 SOURCE: European Journal of Inorganic Chemistry (2000), (2), 369-374
 CODEN: EJICFO; ISSN: 1434-1948
 PUBLISHER: Wiley-VCH Verlag GmbH
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB A phosphinyl group exerts much less .pi.-conjugation properties than an amino group. On this basis, corresponding carbene structures exhibit much smaller singlet-triplet energy sepns. Of the various structures studied quantum-chem., the largest singlet-triplet energy sepns. are predicted for cyclic diphosphinylcarbenes, in which the two functional groups are incorporated into a ring system and the P atoms are substituted by phosphoraniminato groups. In this case, the singlet-triplet energy sepns. become essentially larger than for the Bertrand-type (push-pull) carbenes.
 IT 260049-46-5
 RL: PRP (Properties)
 (singlet-triplet sepns. energy, bond length, and bond angles of phosphinylcarbenes and related species by quantum.-chem. calcns.)
 RN 260049-46-5 CAPLUS
 CN Methylene, bis(difluorophosphino)- (9CI) (CA INDEX NAME)



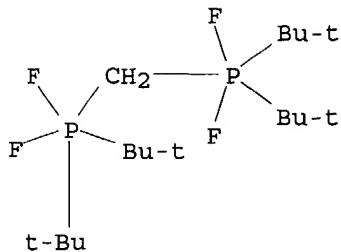
REFERENCE COUNT: 75 THERE ARE 75 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 6 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
 ACCESSION NUMBER: 1996:30667 CAPLUS
 DOCUMENT NUMBER: 124:261180
 TITLE: New observations concerning the reactivity of triorganotin fluorides
 AUTHOR(S): Lambertsen, Thomas; Schmutzler, Reinhard
 CORPORATE SOURCE: Institut Anorganische Analytische Chemie, Technischen Universitaet, Braunschweig, D-38023, Germany
 SOURCE: Zeitschrift fuer Naturforschung, B: Chemical Sciences (1995), 50(11), 1583-6

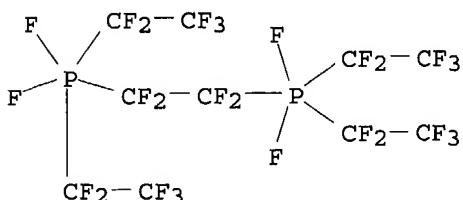
CODEN: ZNBSN; ISSN: 0932-0776
PUBLISHER: Verlag der Zeitschrift fuer Naturforschung
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 124:261180
AB Me₃SnF (I) reacted with many hydrolyzable chlorides to give Me₃SnCl and the corresponding fluoride. The formation of PhPF₂, (ClCH₂)MeSiF₂, F₂PCH₂PF₂ and PF₅ is described. The reaction of Ph₃SnF or Bu₃SnF with CaBr₂ yielded pure triorganotin bromides. Compd. I acted either as a fluoride acceptor or, towards PF₅, as a fluoride donor.
IT 60839-30-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(reactivity of triorganotin fluorides)
RN 60839-30-7 CAPLUS
CN Phosphorous difluoride, methylenebis- (9CI) (CA INDEX NAME)



L11 ANSWER 7 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1995:822016 CAPLUS
DOCUMENT NUMBER: 124:56060
TITLE: Pentacoordinated molecules. 103. Synthesis and molecular structures of fluorophosphoranes, R₃PF₂, isoelectronic with anionic fluorosilicates
AUTHOR(S): Holmes, Robert R.; Holmes, Joan M.; Day, Roberta O.; Swamy, K. C. Kumara; Chandrasekhar, V.
CORPORATE SOURCE: Dep. of Chemistry, Univ. of Massachusetts, Amherst, MA, 01003-4510, USA
SOURCE: Phosphorus, Sulfur and Silicon and the Related Elements (1995), 103(1-4), 153-69
CODEN: PSSLEC; ISSN: 1042-6507
PUBLISHER: Gordon & Breach
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The new difluorophosphoranes Ph(o-Tol)₂PF₂ (1), Mes₃PF₂ (2), Ph(1-Np)₂PF₂ (3), (o-Tol)PF₂, (p-Tol)PF₂, Ph(t-Bu)PF₂, and (Ph₂PF₂)₂CH₂ contg. bulky substituents were prep'd. by the fluorination reaction of precursor organophosphines with dimethylaminosulfur trifluoride. They were characterized by ¹H, ³¹P, and ¹⁹F NMR spectra. The mol. structures of 1-3 revealed trigonal bipyramidal geometries. Comparison of the structural data with that of isoelectronic anionic fluorosilicates along with the NMR data suggests the operation of a steric effect that increases bond lengths in the difluorophosphoranes 1-3 and in related anionic silicates. The data are discussed relative to enhanced reactivity obsd. for anionic silicates. 1 Crystallizes in the monoclinic space group C2/c with a 11.819(3), b 10.163(2), c 13.992(3) .ANG., .beta. 99.14(2).degree., and Z = 4. 2 Crystallizes in the monoclinic space group C2/c with a 10.531(2), b 12.667(2), c 18.110(4) .ANG., .beta. 104.21(2).degree., and Z = 4. 3 Crystd. in the monoclinic space group P21/c with a 15.868(2), b 7.434(1), c 18.213(4) .ANG., .beta. 112.34(2), and Z = 4. The final conventional unweighted residuals are 0.063 (1), 0.060 (2) and 0.040 (3).
IT 171857-49-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of difluorophosphoranes)
RN 171857-49-1 CAPLUS
CN Phosphorane, methylenebis[bis(1,1-dimethylethyl)difluoro-, stereoisomer (9CI) (CA INDEX NAME)]



L11 ANSWER 8 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
 ACCESSION NUMBER: 1995:653663 CAPLUS
 DOCUMENT NUMBER: 123:144016
 TITLE: The synthesis of tris(perfluoroalkyl)phosphanes
 AUTHOR(S): Kampa, Joel J.; Nail, John W.; Lagow, Richard J.
 CORPORATE SOURCE: Dep. Chemistry, Univ. Texas Austin, Austin, TX, 78712,
 USA
 SOURCE: Angewandte Chemie, International Edition in English
 (1995), 34(11), 1241-44
 CODEN: ACIEAY; ISSN: 0570-0833
 PUBLISHER: VCH
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Trialkylphosphines have been subjected to direct elemental fluorination in Freon 11 and 113 (1:1) in a soln. reactor to produce difluorotris(perfluoroalkyl)phosphoranes, e.g., F₂P(CF₂CF₃)₃, in good yields. Redn. of the above difluorotris(perfluoroalkyl)phosphoranes by selective removal of the two axial fluorine atoms bound to the phosphorus using P(SiMe₃)₃ as reducing reagent gave previously inaccessible (perfluoroalkyl)phosphines, e.g., P(CF₂CF₃)₃.
 IT 166982-31-6P
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (synthesis of tris(perfluoroalkyl)phosphines from selective redn. of difluorotris(perfluoroalkyl)phosphoranes, prep'd. by fluorination of trialkylphosphines)
 RN 166982-31-6 CAPLUS
 CN Phosphorane, (1,1,2,2-tetrafluoro-1,2-ethanediyl)bis[difluorobis(pentafluoroethyl)-], stereoisomer (9CI) (CA INDEX NAME)



L11 ANSWER 9 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
 ACCESSION NUMBER: 1992:571556 CAPLUS
 DOCUMENT NUMBER: 117:171556
 TITLE: Mono- and bis(difluorophosphoranyl)ethylene,
 n-hexylidenefluorophosphorane, and a
 2,4-di-n-pentyl-.lambda.5,3.lambda.5-diphosphete
 AUTHOR(S): Fluck, Ekkehard; Kuhm, Peter; Heckmann, Gernot
 CORPORATE SOURCE: Gmelin-Inst. Anorg. Chem., Frankfurt/Main, Germany
 SOURCE: Zeitschrift fuer Anorganische und Allgemeine Chemie

(1992), 613, 31-5
CODEN: ZAACAB; ISSN: 0044-2313

DOCUMENT TYPE: Journal
LANGUAGE: German

OTHER SOURCE(S): CASREACT 117:171556

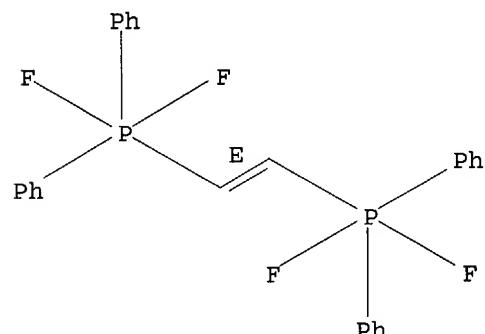
AB Bis(diethylamino)phosphinylethylene, 1, is converted by SF₄ into bis(diethylamino)difluorophosphoranylethylene, 2. Analogously trans-1,2-bis(diphenylphosphanyl)ethylene is converted into trans-1,2-bis(difluorodiphenylphosphoranyl)ethylene, 4. 2 Reacts with BuLi to give hexylidenebis(diethylamino)fluorophosphorane, 5. With more BuLi, the main product hexylidenebis(diethylamino)butylphosphorane, 7, and the byproduct 2,4-dipentyl-1,1,3,3-tetrakis(diethylamino)-1.λ.5,3.λ.5-diphosphate, 8, are formed. With tert-butyllithium, 2 yields 3,3-dimethylbutylidenebis(diethylamino)fluorophosphorane, 6. All new compds. 1, 2, 4-8 are characterized by their NMR and IR spectra.

IT 143674-49-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction of, with BuLi)

RN 143674-49-1 CAPLUS

CN Phosphorane, 1,2-ethenediylbis[difluorodiphenyl-, (E)- (9CI) (CA INDEX NAME)]

Double bond geometry as shown.



L11 ANSWER 10 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1991:504761 CAPLUS

DOCUMENT NUMBER: 115:104761

TITLE: Carbonyl difluoride: reactions with metal-phosphine complexes

AUTHOR(S): Gupta, O. D.; Kirchmeier, Robert L.; Shreeve, Jean'ne M.

CORPORATE SOURCE: Dep. Chem., Univ. Idaho, Moscow, ID, 83843, USA

SOURCE: Journal of Fluorine Chemistry (1991), 52(1), 1-6

CODEN: JFLCAR; ISSN: 0022-1139

DOCUMENT TYPE: Journal

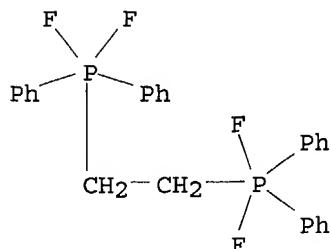
LANGUAGE: English

AB [NiLn]X₂ [L = Ph₂P(CH₂)_xPPh₂; x = 1, 2, 3 (dpm, dpe, and dpp, resp.); X = Cl, Br, I; n = 1, 2] were allowed to react with COF₂ under homogeneous and heterogeneous conditions at ambient temp. or above. The dpm ligands of [Ni(dpm)]X₂ and [Ni(dpm)₂]X₂ were oxidatively fluorinated to the phosphorane, but [Ni(dpe)]X₂ and [Ni(dpp)]X₂ did not react with COF₂ under any conditions tried. [Ni(dpe)₂]X₂ and [Ni(dpp)₂]X₂ reacted with COF₂ at 25.degree. in CH₂Cl₂ to form fluorinated phosphoranes and [Ni(dpe)]X₂ and [Ni(dpp)]X₂, resp. COF₂ reacted with [Ni(dpp)₂] and [Ni(dpe)₂] to give the stoichiometric amts. of oxidatively fluorinated phosphoranes.

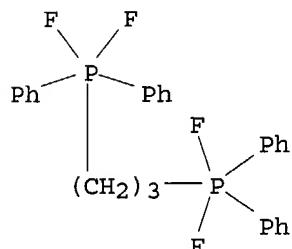
IT 55339-52-1P 63883-61-4P

RL: FORM (Formation, nonpreparative); PREP (Preparation)

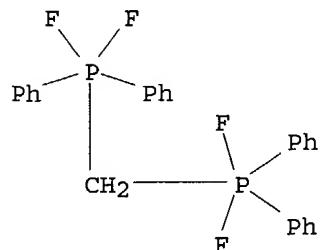
(formation of, from nickel bis(diphenylphosphino)alkane complexes and carbonyl difluoride)
RN 55339-52-1 CAPLUS
CN Phosphorane, 1,2-ethanediylbis[difluorodiphenyl- (9CI) (CA INDEX NAME)



RN 63883-61-4 CAPLUS
CN Phosphorane, 1,3-propanediylbis[difluorodiphenyl- (9CI) (CA INDEX NAME)



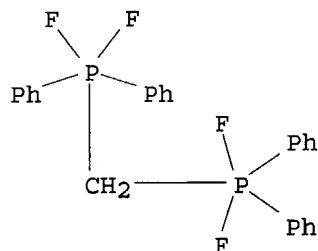
IT 26040-41-5P
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, from nickel bis(diphenylphosphino)methane complex halide salts and carbonyl fluoride)
RN 26040-41-5 CAPLUS
CN Phosphorane, methylenebis[difluorodiphenyl-, stereoisomer (9CI) (CA INDEX NAME)



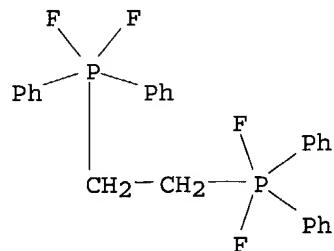
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L11 ANSWER 11 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1990:90224 CAPLUS
DOCUMENT NUMBER: 112:90224
TITLE: Trifluoroamine oxide: reactions with phosphorus compounds and selected elements

AUTHOR(S): Gupta, O. D.; Kirchmeier, Robert L.; Shreeve, Jeanne M.
 CORPORATE SOURCE: Dep. Chem., Univ. Idaho, Moscow, ID, 83843, USA
 SOURCE: Inorganic Chemistry (1990), 29(3), 573-4
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB NF₃O was reacted with main group elements and Zn, Cd and Pb at 200.degree. for 24 h to form their fluorides in high purity. Oxidative fluorination of phosphines and phosphites and abstraction of H from the P-H bond in secondary phosphates have been achieved at 110.degree.. Results are compared with COF₂ and SOF₂ as fluorinating agents.
 IT 26040-41-5P 55339-52-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prep. of, by fluorination with trifluoroamine oxide)
 RN 26040-41-5 CAPLUS
 CN Phosphorane, methylenebis[difluorodiphenyl-, stereoisomer (9CI) (CA INDEX NAME)

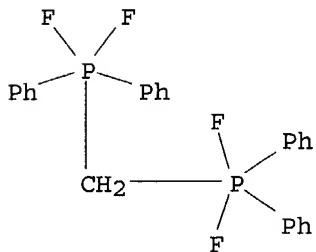


RN 55339-52-1 CAPLUS
 CN Phosphorane, 1,2-ethanediylbis[difluorodiphenyl- (9CI) (CA INDEX NAME)

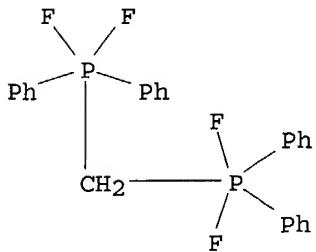


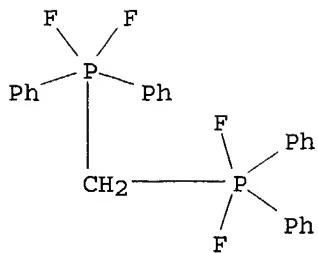
L11 ANSWER 12 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
 ACCESSION NUMBER: 1990:35972 CAPLUS
 DOCUMENT NUMBER: 112:35972
 TITLE: Fluoro-substituted and other new carbodiphosphoranes
 AUTHOR(S): Fluck, E.; Neumueller, B.; Braun, R.; Heckmann, G.; Simon, A.; Borrman, H.
 CORPORATE SOURCE: Gmelin-Inst. Anorg. Chem. Grenzgebiete,
 Max-Planck-Ges., Frankfurt/Main, D-6000/90, Fed. Rep. Ger.
 SOURCE: Zeitschrift fuer Anorganische und Allgemeine Chemie
 (1988), 567, 23-38
 DOCUMENT TYPE: Journal
 LANGUAGE: German
 OTHER SOURCE(S): CODEN: ZAACAB; ISSN: 0044-2313
 CASREACT 112:35972

- AB Reaction of phosphorus ylide, H₂C:PF(NMe₂)₂, with Li in DME gave 7.1% (Me₂N)₃P:C:P(NMe₂)₂Me (I) along with [HC:P(NMe₂)₂]₂ identified by ³¹P NMR. Dehydrofluorination of R₂F₂PCH₂PF₂R₂ (R = NMe₂, Ph) with BuLi gave title compds. R₂FP:C:PFR₂ (II). ³¹P NMR spectra of I and II were discussed in detail. The crystal structure of II (R = NMe₂) was detd.
- IT 26040-41-5
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (dehydrofluorination of, with butyllithium, carbodiphosphorane by)
- RN 26040-41-5 CAPLUS
- CN Phosphorane, methylenebis[difluorodiphenyl-, stereoisomer (9CI) (CA INDEX NAME)



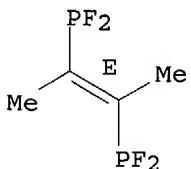
- L11 ANSWER 13 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
- ACCESSION NUMBER: 1989:497374 CAPLUS
- DOCUMENT NUMBER: 111:97374
- TITLE: Alkyl- and aryldifluorophosphorane
- AUTHOR(S): Fluck, E.; Braun, R.
- CORPORATE SOURCE: Inst. Anorg. Chem., Univ. Stuttgart, Stuttgart,
D-7000/80, Fed. Rep. Ger.
- SOURCE: Synthesis and Reactivity in Inorganic and
Metal-Organic Chemistry (1988), 18(7), 727-38
- CODEN: SRIMCN; ISSN: 0094-5714
- DOCUMENT TYPE: Journal
- LANGUAGE: German
- OTHER SOURCE(S): CASREACT 111:97374
- AB Methods of prepn. of alkyl and aryl difluorophosphoranes are reinvestigated. Routes starting from alkyl- and arylphosphines and using SF₄ as fluorinating agent or starting from alkyl- and aryldibromophosphoranes and exchanging bromine for fluorine were used to prep. new members of the title compd. class. Thus, oxidative fluorination of (PhCH₂)₂PNet₂ with SF₄ in Et₂O gave 92.9% (PhCH₂)₂PF₂Net₂; (Me₃C)₂PM₂F was prep'd. by bromination of (Me₃C)₂PM₂ with Br₂ followed by fluorination with NaF.
- IT 26040-41-5P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prep'n. of)
- RN 26040-41-5 CAPLUS
- CN Phosphorane, methylenebis[difluorodiphenyl-, stereoisomer (9CI) (CA INDEX NAME)





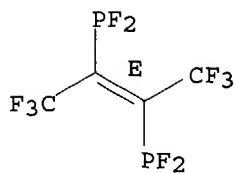
L11 ANSWER 14 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
 ACCESSION NUMBER: 1989:114968 CAPLUS
 DOCUMENT NUMBER: 110:114968
 TITLE: Photoreactions of tetrafluorodiphosphine with alkynes
 AUTHOR(S): Morse, J. G.; Mielcarek, J. J.
 CORPORATE SOURCE: Dep. Chem. Biochem., Utah State Univ., Logan, UT,
 84322-0300, USA
 SOURCE: Journal of Fluorine Chemistry (1988), 40(1), 41-9
 CODEN: JFLCAR; ISSN: 0022-1139
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 110:114968
 AB The reactions of tetrafluorodiphosphine with several alkynes in the gas phase and under UV irradn. were studied. Simple addn. products, e.g., CF₃C(PF₂)₂:C(PF₂)CF₃ from CF₃C.tplbond.CCF₃, were obtained in substantial yield. Methyl-substituted alkynes gave little volatile product while ethyne and diphenylethyne gave no volatile addn. products. Nonvolatile byproducts were obtained, probably polymers, in substantial quantity in the latter instances. Volatile products were characterized by IR and NMR spectra and by mass spectrometry.
 IT 119254-98-7P 119254-99-8P 119255-00-4P
 119255-01-5P 119255-02-6P 119280-18-1P
 119280-19-2P 119280-20-5P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prep. of)
 RN 119254-98-7 CAPLUS
 CN Phosphorous difluoride, (1,2-dimethyl-1,2-ethenediyl)bis-, (E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

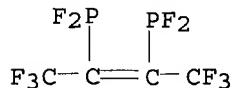


RN 119254-99-8 CAPLUS
 CN Phosphorous difluoride, [1,2-bis(trifluoromethyl)-1,2-ethenediyl]bis-, (E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

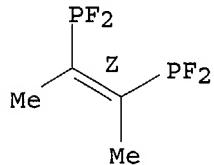


RN 119255-00-4 CAPLUS
 CN Phosphorous difluoride, [1,2-bis(trifluoromethyl)-1,2-ethenediyyl]bis- (9CI) (CA INDEX NAME)



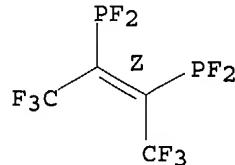
RN 119255-01-5 CAPLUS
 CN Phosphorous difluoride, (1,2-dimethyl-1,2-ethenediyyl)bis-, (Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

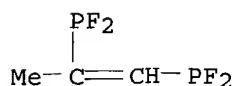


RN 119255-02-6 CAPLUS
 CN Phosphorous difluoride, [1,2-bis(trifluoromethyl)-1,2-ethenediyyl]bis-, (Z)- (9CI) (CA INDEX NAME)

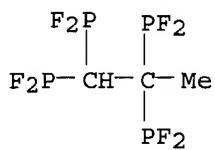
Double bond geometry as shown.



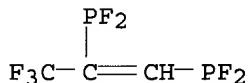
RN 119280-18-1 CAPLUS
 CN Phosphorous difluoride, (1-methyl-1,2-ethenediyyl)bis- (9CI) (CA INDEX NAME)



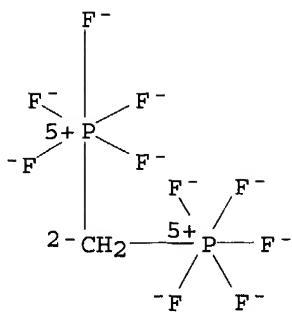
RN 119280-19-2 CAPLUS
 CN Phosphorous difluoride, (1-methyl-1,2-ethanediylidene)tetrakis- (9CI) (CA INDEX NAME)



RN 119280-20-5 CAPLUS
 CN Phosphonous difluoride, [1-(trifluoromethyl)-1,2-ethenediyyl]bis- (9CI)
 (CA INDEX NAME)



L11 ANSWER 15 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
 ACCESSION NUMBER: 1988:631158 CAPLUS
 DOCUMENT NUMBER: 109:231158
 TITLE: Methylene compounds of nonmetals. V.
 Methylenediphosphorus halides
 AUTHOR(S): Fild, M.; Handke, W.
 CORPORATE SOURCE: Inst. Anorg. Anal. Chem., Tech. Univ. Braunschweig,
 Braunschweig, D-3300, Fed. Rep. Ger.
 SOURCE: Zeitschrift fuer Anorganische und Allgemeine Chemie
 (1987), 555, 109-17
 CODEN: ZAACAB; ISSN: 0044-2313
 DOCUMENT TYPE: Journal
 LANGUAGE: German
 OTHER SOURCE(S): CASREACT 109:231158
 AB The synthesis of methylene-bridged diphosphorus halides $\text{X}_2\text{P}(\text{Z})\text{CH}_2\text{PX}_2$,
 $\text{X}_2\text{P}(\text{Z})\text{CH}_2\text{P}(\text{Z})\text{X}_2$ and $\text{F}_4\text{PCH}_2\text{P}(\text{Z})\text{X}_2$ ($\text{X} = \text{F}, \text{Cl}$; $\text{Z} = \text{O}, \text{S}$) as well as the
 prepn. of the fluorophosphorane $\text{F}_4\text{PCH}_2\text{PF}_4$, and of the two anions,
 $[\text{F}_5\text{PCH}_2\text{PF}_5]^{2-}$ and $[\text{F}_5\text{PCH}_2\text{P}(\text{O})\text{F}_2]^-$, is reported.
 IT 117618-21-0P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (prepn. and hydrolysis of)
 RN 117618-21-0 CAPLUS
 CN Phosphate(2-), decafluoro-.mu.-methylenedi-, dipotassium (9CI) (CA INDEX
 NAME)



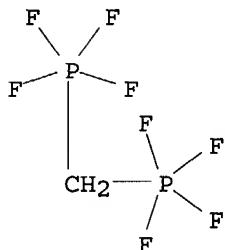
● 2 K⁺

IT 57080-69-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction of, with antimony fluoride)

RN 57080-69-0 CAPLUS

CN Phosphorane, methylenebis[tetrafluoro- (9CI)] (CA INDEX NAME)



L11 ANSWER 16 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1988:37961 CAPLUS

DOCUMENT NUMBER: 108:37961

TITLE: Preparation and reactions of difluoromethanebis(phosphonous acid dichlorides)

AUTHOR(S): Fild, Manfred; Reichert, Karl Heinz

CORPORATE SOURCE: Inst. Anorg. Anal. Chem., Tech. Univ. Braunschweig, Braunschweig, D-3300, Fed. Rep. Ger.

SOURCE: Chemiker-Zeitung (1987), 111(5), 176-7

CODEN: CMKZAT; ISSN: 0009-2894

DOCUMENT TYPE: Journal

LANGUAGE: German

OTHER SOURCE(S): CASREACT 108:37961

AB Dethiolation of Cl₂P(S)CF₂P(S)Cl₂ with PhPCl₂ gave 82% Cl₂PCF₂PCl₂ (I).

Reaction of I with Me₂CHOH in presence of Et₃N gave 80%

(Me₂CHO)₂PCF₂P(OCHMe₂)₂ (II). Aminolysis of I with Me₃SiNMe₂ gave 90%

(Me₂N)₂PCF₂P(NMe₂)₂ (III). Fluorination of I with SbF₃ gave 63%

F₂PCF₂PF₂. Cyclization of I with Me₃CNH₂ in CH₂Cl₂ gave 50%

1-tert-butyl-2,4-dichloro-3,3-difluoro-1-aza-2,4-diphosphacyclobutane.

Complexation of II or III with norbornadienylmolybdenum tetracarbonyl gave 55% [(Me₂CHO)₂PCF₂P(OCHMe₂)₂]Mo(CO)₄ and 60% [(Me₂N)₂PCF₂P(NMe₂)₂]Mo(CO)₄.

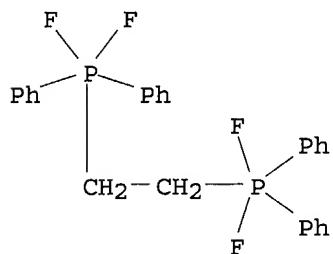
IT 112275-99-7P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 112275-99-7 CAPLUS
CN Phosphorous difluoride, (difluoromethylene)bis- (9CI) (CA INDEX NAME)

F₂P—CF₂—PF₂

L11 ANSWER 17 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1984:472840 CAPLUS
DOCUMENT NUMBER: 101:72840
TITLE: Carbonyl difluoride: a versatile fluorinating reagent
AUTHOR(S): Gupta, O. D.; Shreeve, Jeanne M.
CORPORATE SOURCE: Dep. Chem., Univ. Idaho, Moscow, ID, 83843, USA
SOURCE: Journal of the Chemical Society, Chemical Communications (1984), (7), 416-17
CODEN: JCCCAT; ISSN: 0022-4936
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 101:72840
AB COF₂ (I) oxidatively fluorinated organophosphorus compds. in CH₂Cl₂ at 25.degree. where the central atom is coordinatively unsatd. and replaced P-H, N-H or C-H bonds with P-F, N-F or C-F bonds, resp. E.g., I with R₃P (R = Me, Bu, Me₃C, Ph) in CH₂Cl₂ at 25.degree. for 12 h gave R₃PF₂ (same R) in 70-80% yield.
IT 55339-52-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prep. of)
RN 55339-52-1 CAPLUS
CN Phosphorane, 1,2-ethanediylbis[difluorodiphenyl- (9CI) (CA INDEX NAME)



L11 ANSWER 18 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1984:447617 CAPLUS
DOCUMENT NUMBER: 101:47617
TITLE: Ligand influence on the electronic properties of some bis(tertiary phosphine)-substituted chromium and molybdenum carbonyls: cyclic voltammetry and infrared spectroscopy of M(CO)₄R₂PCH₂CH₂PR₂
AUTHOR(S): Cook, Ron L.; Morse, Joseph G.
CORPORATE SOURCE: Dep. Chem. Biochem., Utah State Univ., Logan, UT, 84322, USA
SOURCE: Inorganic Chemistry (1984), 23(15), 2332-6
CODEN: INOCAJ; ISSN: 0020-1669
DOCUMENT TYPE: Journal
LANGUAGE: English
AB R₂PCH₂CH₂PR₂ (R = F, Cl, C₆F₅, MeO, Ph, Me and cyclohexyl) and their resp. Cr and Mo complexes were prep'd. to provide a wide range of electronic effects at the metal center. Cyclic voltammetry and IR spectroscopy were used to det. relative charge d. at the metal center. As detd. by cyclic

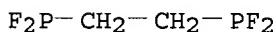
voltammetry the π -acceptor strength of $R_2PCH_2CH_2PR_2$ decreases in the order $R = F > Cl > C_6F_5 > MeO > Ph > Me >$ cyclohexyl. A linear correlation between $k(CO)_{trans}$ and the value $E_{1/2} = (E_a + E_c)/2$ was found for the series $M(CO)_6$ and $M(CO)_4R_2PCH_2CH_2PR_2$ ($M = Cr$ or Mo and $R = F, Cl, C_6F_5, MeO$, and Ph). The complexes contg. $Me_2PCH_2CH_2PMe_2$ and $R_2PCH_2CH_2PR_2$ ($R =$ cyclohexyl) do not fall on this line but lie below it. The existence of these 2 groups of phosphines is argued to reflect the difference in the π -acceptor capabilities of the ligands.

IT 50966-32-0P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prep. of, from bis(dichlorophosphino)ethane and potassium fluoride)

RN 50966-32-0 CAPLUS

CN Phosphorous difluoride, 1,2-ethanediylbis- (9CI) (CA INDEX NAME)



L11 ANSWER 19 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1981:425216 CAPLUS

DOCUMENT NUMBER: 95:25216

TITLE: Chemistry of phosphorus fluorides. 43. Synthesis and nuclear magnetic resonance spectroscopic studies of alkylene/alkylidenebis(phosphonic acid dihalides) and -bis(fluorophosphoranes)

AUTHOR(S): Althoff, Wolfgang; Fild, Manfred; Schmutzler, Reinhard
CORPORATE SOURCE: Tech. Univ. Braunschweig, Braunschweig, D-3300, Fed.
Rep. Ger.

SOURCE: Chemische Berichte (1981), 114(3), 1082-90
CODEN: CHBEAM; ISSN: 0009-2940

DOCUMENT TYPE: Journal

LANGUAGE: German

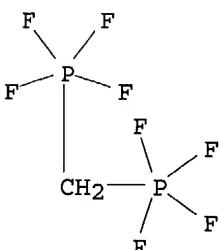
AB Cl-F exchange in $X[P(O)Cl_2]_2$ with AsF_3 gave $X[P(O)F_2]_2$ (I). Reaction of I with SF_4 gave $X[PF_4]_2$ ($X = CH_2$ (II), CH_2CH_2 , trans- $CH:CH$). Addnl. methods of synthesis were indicated for II which were based on the cleavage of the Si-C bond with PF_5 in the Si-C bonded precursors, 1,1,3,3-tetramethyl-1,3-disilacyclobutane and $Me_3SiCH_2PF_4$.

IT 57080-69-0P 78102-40-6P 78102-41-7P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prep. of)

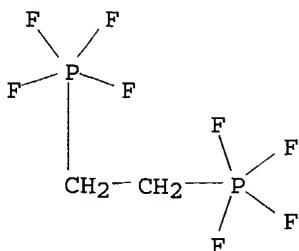
RN 57080-69-0 CAPLUS

CN Phosphorane, methylenebis[tetrafluoro- (9CI) (CA INDEX NAME)



RN 78102-40-6 CAPLUS

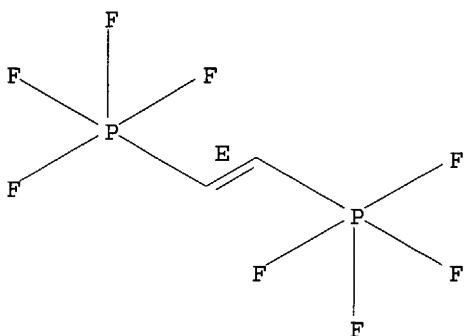
CN Phosphorane, 1,2-ethanediylbis[tetrafluoro- (9CI) (CA INDEX NAME)



RN 78102-41-7 CAPLUS

CN Phosphorane, 1,2-ethenediylbis[tetrafluoro-, (E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L11 ANSWER 20 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1979:38988 CAPLUS

DOCUMENT NUMBER: 90:38988

TITLE: A novel diphosphorus zwitterion

AUTHOR(S): Cowley, Alan H.; Lee, Rosalind Chung-Yi

CORPORATE SOURCE: Dep. Chem., Univ. Texas, Austin, TX, USA

SOURCE: Inorganic Chemistry (1979), 18(1), 60-3

CODEN: INOCAJ; ISSN: 0020-1669

DOCUMENT TYPE: Journal

LANGUAGE: English

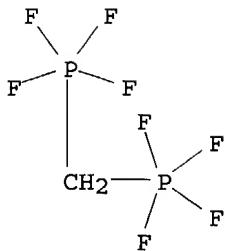
AB A novel acyclic diphosphorus zwitterion $\text{F}_5\text{P}-\text{CH}_2\text{P}^+(\text{NMe}_2)_2\text{F}$ (I) contg. both hexa- and tetracoordinate P atoms was synthesized by reaction of $\text{Me}_3\text{SiNMe}_2$ with $(\text{F}_4\text{P})_2\text{CH}_2$. The ${}^1\text{H}$ and ${}^{19}\text{F}$ resonances of I collapse at higher temps. Possible causes for these spectral changes are discussed. Some unsuccessful attempts to synthesize new $(\text{F}_4\text{P})_2\text{X}$ compds. ($\text{Z} = \text{NMe}, \text{O}, \text{S}$) are described.

IT 57080-69-0

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with (dimethylamino)trimethylsilane)

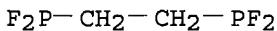
RN 57080-69-0 CAPLUS

CN Phosphorane, methylenebis[tetrafluoro- (9CI) (CA INDEX NAME)



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L11 ANSWER 21 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
 ACCESSION NUMBER: 1979:15633 CAPLUS
 DOCUMENT NUMBER: 90:15633
 TITLE: Coordination chemistry of bidentate difluorophosphines. IV. Complexes of 1,2-bis(difluorophosphino)ethane with nickel(0) and molybdenum(0)
 AUTHOR(S): Gallup, Darrell L.; Morse, Joseph G.
 CORPORATE SOURCE: Dep. Chem. Biochem., Utah State Univ., Logan, UT, USA
 SOURCE: Journal of Organometallic Chemistry (1978), 159(4), 477-82
 CODEN: JORCAI; ISSN: 0022-328X
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The ligand, 1,2-bis(difluorophosphino)ethane reacts with Ni(CO)4 in the gas phase and in soln. to produce CO and a polymer, [Ni(PF2C2H4PF2)2]x. PF2C2H4PF2 displaces norbornadiene from (C7H8)Mo(CO)4 to yield the relatively air-stable complex, Mo(CO)4(PF2C2H4PF2). Anal. of the IR spectrum of the monomeric complex indicates that the ligand exhibits .pi.-acceptor strength equal to that of 1,2-bis(difluorophosphino)cyclohexane.
 IT 50966-32-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (.pi.-acceptor strength of)
 RN 50966-32-0 CAPLUS
 CN Phosphorous difluoride, 1,2-ethanediylbis- (9CI) (CA INDEX NAME)



L11 ANSWER 22 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
 ACCESSION NUMBER: 1977:584607 CAPLUS
 DOCUMENT NUMBER: 87:184607
 TITLE: Oligo(difluorophosphoranes) by direct fluorination of tertiary phosphines
 AUTHOR(S): Ruppert, Ingo; Bastian, Volker
 CORPORATE SOURCE: Anorg.-Chem. Inst., Univ. Bonn, Bonn, Fed. Rep. Ger.
 SOURCE: Angewandte Chemie (1977), 89(10), 763-5
 CODEN: ANCEAD; ISSN: 0044-8249
 DOCUMENT TYPE: Journal
 LANGUAGE: German
 AB Fluorination of Ph2P(CH2)nPh2 in CFC13 gave 71-89% Ph2PF2(CH2)nPF2Ph2 (n = 1-4) similarly, Ph2PF2(CH2)2PF2Me2, (CH2)3(PF2Me2)2, PhPF2(CH2CH2PF2Ph2)2, and Ph2PF2CH2CH2PF2(CH2CH2PF2Ph2)2 were prep'd.
 IT 26040-41-5P 55339-52-1P 55339-53-2P

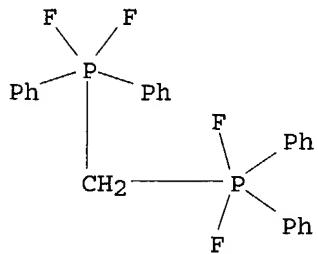
63883-57-8P 63883-58-9P 63883-59-0P

63883-60-3P 63883-61-4P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prep. of)

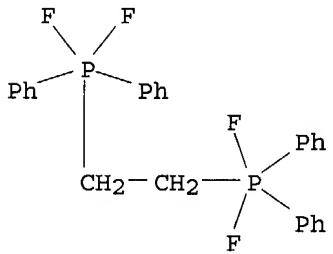
RN 26040-41-5 CAPLUS

CN Phosphorane, methylenebis[difluorodiphenyl-, stereoisomer (9CI) (CA INDEX NAME)



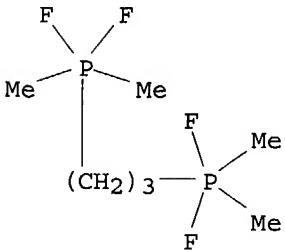
RN 55339-52-1 CAPLUS

CN Phosphorane, 1,2-ethanediylbis[difluorodiphenyl- (9CI) (CA INDEX NAME)



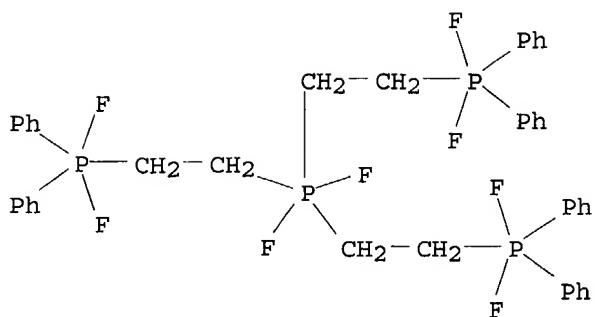
RN 55339-53-2 CAPLUS

CN Phosphorane, 1,3-propanediylbis[difluorodimethyl- (9CI) (CA INDEX NAME)

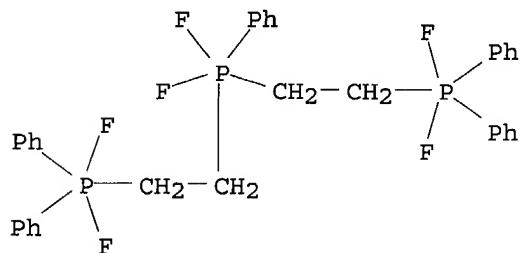


RN 63883-57-8 CAPLUS

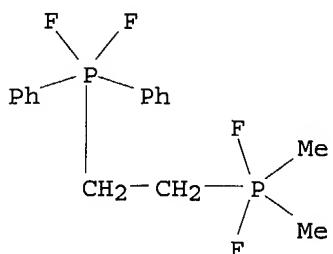
CN Phosphorane, tris[2-(difluorodiphenylphosphoranyl)ethyl]difluoro- (9CI)
(CA INDEX NAME)



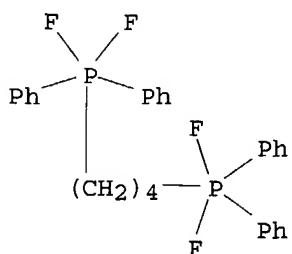
RN 63883-58-9 CAPLUS
 CN Phosphorane, bis[2-(difluorodiphenylphosphoranyl)ethyl]difluorophenyl-
 (9CI) (CA INDEX NAME)



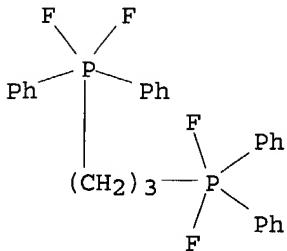
RN 63883-59-0 CAPLUS
 CN Phosphorane, [2-(difluorodimethylphosphoranyl)ethyl]difluorodiphenyl-
 (9CI) (CA INDEX NAME)



RN 63883-60-3 CAPLUS
 CN Phosphorane, 1,4-butanediylbis[difluorodiphenyl- (9CI) (CA INDEX NAME)



RN 63883-61-4 CAPLUS
CN Phosphorane, 1,3-propanediylbis [difluorodiphenyl- (9CI) (CA INDEX NAME)



L11 ANSWER 23 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1977:584598 CAPLUS
DOCUMENT NUMBER: 87:184598
TITLE: Preparation of diphosphorus(III) compounds with methylene bridges
AUTHOR(S): Fild, Manfred; Heinze, Jutta; Krueger, Wieland
CORPORATE SOURCE: Tech. Univ. Braunschweig, Braunschweig, Fed. Rep. Ger.
SOURCE: Chemiker-Zeitung (1977), 101(5), 259-60
CODEN: CMKZAT; ISSN: 0009-2894
DOCUMENT TYPE: Journal
LANGUAGE: German
AB CH₂(PCl₂)₂, prep'd. in 65% yield from CH₂(PSCl₂)₂ and Ph₂PCl, was treated with MeOH, Et₂NH, MeLi, and SbF₃ to give, resp., CH₂[P(OMe)₂]₂, CH₂[P(NEt₂)₂]₂, CH₂(PMe₂)₂, and CH₂(PF₂)₂.
IT 60839-30-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prep'n. of)
RN 60839-30-7 CAPLUS
CN Phosphonous difluoride, methylenebis- (9CI) (CA INDEX NAME)

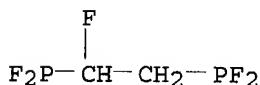
F₂P—CH₂—PF₂

L11 ANSWER 24 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1976:560263 CAPLUS
DOCUMENT NUMBER: 85:160263
TITLE: The synthesis and characterization of some new difluorophosphine derivatives
AUTHOR(S): Bockerman, G. N.; Parry, R. W.
CORPORATE SOURCE: Dep. Chem., Univ. Michigan, Ann Arbor, MI, USA
SOURCE: Inorg. Nucl. Chem. - Herbert H. Hyman Mem. Vol. (1976)
, 55-8. Editor(s): Katz, Joseph J.; Sheft, Irving.
Pergamon: Oxford, Engl.
CODEN: 33TZAU
DOCUMENT TYPE: Conference
LANGUAGE: English
AB F₂PCH₂PF₂ was prep'd. in 32% yield by the photolytic decompn. of F₂PCH₂I (prep'd. by the metathesis between F₂PI and ICH₂HgI) in the presence of Hg. F₂PCH₂CH:CH₂ was prep'd. in 49% yield by the reaction of CH₂:CHCH₂I with F₂PI.
IT 60839-30-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prep'n. of)
RN 60839-30-7 CAPLUS

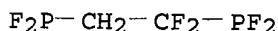
CN Phosphonous difluoride, methylenebis- (9CI) (CA INDEX NAME)



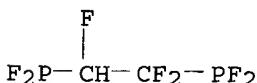
L11 ANSWER 25 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1976:121956 CAPLUS
DOCUMENT NUMBER: 84:121956
TITLE: Photoreactions of tetrafluorodiphosphine with partially fluorinated ethenes
AUTHOR(S): Glanville, W. Kent; Morse, Karen W.; Morse, Joseph G.
CORPORATE SOURCE: Dep. Chem. Biochem., Utah State Univ., Logan, UT, USA
SOURCE: Journal of Fluorine Chemistry (1976), 7(1-3), 153-8
CODEN: JFLCAR; ISSN: 0022-1139
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The photoreactions of P₂F₄ with partially fluorinated ethenes gave 1,2-bis(difluorophosphino)-1-fluoroethane, 1,2-bis(difluorophosphino)-1,1-difluoroethane, and 1,2-bis(difluorophosphino)-1,1,2-trifluoroethane. A rapidly diminishing yield of product results with increasing fluorination of the olefin.
IT 59239-79-1 59239-80-4 59239-81-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(sepn. and NMR of)
RN 59239-79-1 CAPLUS
CN Phosphonous difluoride, (1-fluoro-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



RN 59239-80-4 CAPLUS
CN Phosphonous difluoride, (1,1-difluoro-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)

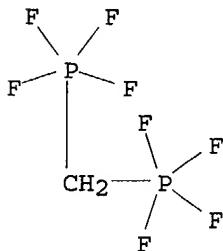


RN 59239-81-5 CAPLUS
CN Phosphonous difluoride, (1,1,2-trifluoro-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)

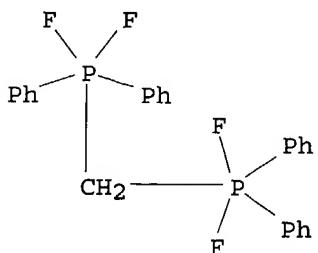


L11 ANSWER 26 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1975:497486 CAPLUS
DOCUMENT NUMBER: 83:97486
TITLE: Cleavage of the silicon-carbon bond by a phosphorus fluoride. Methylenebis(tetrafluorophosphorane)

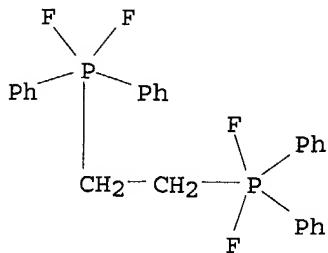
AUTHOR(S): Althoff, Wolfgang; Fild, Manfred; Koop, Hermann;
 Schmutzler, Reinhard
 CORPORATE SOURCE: Tech. Univ., Braunschweig, Fed. Rep. Ger.
 SOURCE: Journal of the Chemical Society, Chemical Communications (1975), (12), 468-9
 CODEN: JCCCAT; ISSN: 0022-4936
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB PF₅ cleavage of 1,1,3,3-tetramethyl-1,3-disilacyclobutane gave CH₂(PF₄)₂ (I) and (FSiMe₂CH₂)₂. ¹⁹F and ³¹P NMR spectroscopy showed that I underwent fast positional exchange of ligands at P from -100 to 30.degree..
 IT 57080-69-0P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prep. of)
 RN 57080-69-0 CAPLUS
 CN Phosphorane, methylenebis[tetrafluoro- (9CI) (CA INDEX NAME)



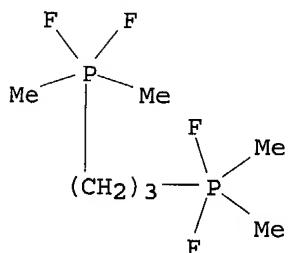
L11 ANSWER 27 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
 ACCESSION NUMBER: 1975:458939 CAPLUS
 DOCUMENT NUMBER: 83:58939
 TITLE: Alkylenebis(difluorophosphoranes) by hydrofluorination
 of silylated phosphorus(V) imides
 AUTHOR(S): Appel, Rolf; Ruppert, Ingo
 CORPORATE SOURCE: Anorg.-Chem. Inst., Univ. Bonn, Bonn, Fed. Rep. Ger.
 SOURCE: Chemische Berichte (1975), 108(3), 919-24
 CODEN: CHBEAM; ISSN: 0009-2940
 DOCUMENT TYPE: Journal
 LANGUAGE: German
 AB (CH₂)_n(PF₂R₂)₂ (R, n given: Ph, 1; Ph, 2; Me, 3) were prep'd. by cleavage
 and fluorination of R₂P(:NSiMe₃)(CH₂)_nPR₂(:NSiMe₃) with HF in ether.
 IT 26040-41-5P 55339-52-1P 55339-53-2P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prep. of)
 RN 26040-41-5 CAPLUS
 CN Phosphorane, methylenebis[difluorodiphenyl-, stereoisomer (9CI) (CA INDEX NAME)



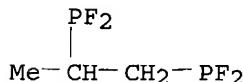
RN 55339-52-1 CAPLUS
CN Phosphorane, 1,2-ethanediylbis[difluorodiphenyl- (9CI) (CA INDEX NAME)

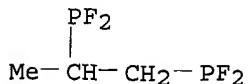


RN 55339-53-2 CAPLUS
CN Phosphorane, 1,3-propanediylbis[difluorodimethyl- (9CI) (CA INDEX NAME)

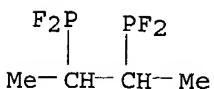


L11 ANSWER 28 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1975:105840 CAPLUS
DOCUMENT NUMBER: 82:105840
TITLE: Photoreactions of tetrafluorodiphosphine with nonsubstituted olefins and perfluoroolefins
AUTHOR(S): Morse, Joseph G.; Morse, Karen W.
CORPORATE SOURCE: Dep. Chem. Biochem., Utah State Univ., Logan, UT, USA
SOURCE: Inorganic Chemistry (1975), 14(3), 565-9
CODEN: INOCAJ; ISSN: 0020-1669
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The photoreactions of P₂F₄ with C₂H₄, C₃H₆, 2-C₄H₈, C₆H₁₀, C₂F₄, and C₃F₆ have resulted in the formation of F₂PCH₂CH₂PF₂, CH₃CHPF₂CH₂PF₂, CH₃CHPF₂CHPF₂CH₃, C₆H₁₀(PF₂)₂, F₂PCF₂CF₂PF₂, and CF₃CFPF₂CF₂PF₂. No recoverable amt. of comparable products was obtained in similar mixts. of P₂F₄ and 2-C₄F₈ or of P₂F₄ and C₆F₁₀. The new compds. were characterized by ir, NMR, and mass spectrometry. C₆H₁₀(PF₂)₂ displays temp.-dependent NMR spectra consistent with the trans isomer.
IT 53432-50-1P 53432-51-2P 53432-53-4P
53432-54-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 53432-50-1 CAPLUS
CN Phosphorous difluoride, (1-methyl-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)





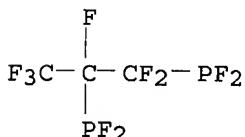
RN 53432-51-2 CAPLUS
 CN Phosphonous difluoride, (1,2-dimethyl-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



RN 53432-53-4 CAPLUS
 CN Phosphonous difluoride, (1,1,2,2-tetrafluoro-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



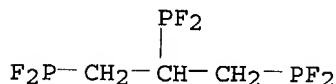
RN 53432-54-5 CAPLUS
 CN Phosphonous difluoride, [1,1,2-trifluoro-2-(trifluoromethyl)-1,2-ethanediyl]bis- (9CI) (CA INDEX NAME)



L11 ANSWER 29 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
 ACCESSION NUMBER: 1975:43523 CAPLUS
 DOCUMENT NUMBER: 82:43523
 TITLE: Chemistry of 1,2-bis(difluorophosphino)ethane.
 Preparation of 2,5-difluoro-1-methyl-1,2,5-azadiphospholidine and 1-dimethylaminofluorophosphino-2-difluorophosphinoethane
 AUTHOR(S): Falardeau, E. R.; Morse, K. W.; Morse, J. G.
 CORPORATE SOURCE: Dep. Chem. Biochem., Utah State Univ., Logan, UT, USA
 SOURCE: Inorganic Chemistry (1975), 14(1), 132-4
 CODEN: INOCAJ; ISSN: 0020-1669
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI For diagram(s), see printed CA Issue.
 AB The gas-phase reaction of methylamine with $\text{F}_2\text{PCH}_2\text{CH}_2\text{PF}_2$ by ring closure gave 2,5-difluoro-1-methyl-1,2,5-azadiphospholidine, (I). Under similar conditions, ammonia apparently gave ring closure also but in much lower yield and with lower stability. Dimethylamine gave $\text{Me}_2\text{NPFCH}_2\text{CH}_2\text{PF}_2$.
 IT 50966-32-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction with ammonia and methanamines)
 RN 50966-32-0 CAPLUS
 CN Phosphonous difluoride, 1,2-ethanediylbis- (9CI) (CA INDEX NAME)

F₂P—CH₂—CH₂—PF₂

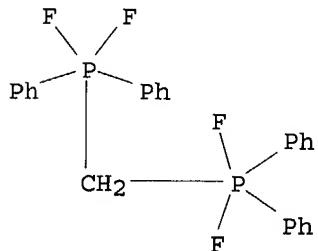
L11 ANSWER 30 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1974:536232 CAPLUS
DOCUMENT NUMBER: 81:136232
TITLE: Reactions of tetrafluorodiphosphine with some
3-substituted propene derivatives
AUTHOR(S): Falardeau, E. R.; Morse, K. W.; Morse, J. G.
CORPORATE SOURCE: Dep. Chem. Biochem., Utah State Univ., Logan, UT, USA
SOURCE: Inorganic Chemistry (1974), 13(10), 2333-7
CODEN: INOCAJ; ISSN: 0020-1669
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The reaction of P₂F₄ with F₂PCH₂CH: CH₂ and H₂NCH₂CH: CH₂ gave
F₂PCH₂CHPF₂CH₂PF₂ and F₂PNHCH₂CH: CH₂, resp. Me₂NCH₂CH: CH₂ reacts in the
dark with P₂F₄ to give unidentified solid products. The formation of
F₂PCH₂CHPF₂CH₂PF₂ proceeds by a free-radical path and its tribasic
character demonstrated by the formation of a triadduct with B₂H₆. The
relative Lewis basicities of the two kinds of P in F₂PCH₂CHPF₂CH₂PF₂ was
investigated by NMR of a 1:1 mixt. of B₂H₆ and F₂PCH₂CHPF₂CH₂PF₂.
IT 52124-34-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 52124-34-2 CAPLUS
CN Phosphonous difluoride, 1,2,3-propanetriyltris- (9CI) (CA INDEX NAME)



L11 ANSWER 31 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1974:15017 CAPLUS
DOCUMENT NUMBER: 80:15017
TITLE: Free radical reactions of tetrafluorodiphosphine.
Preparation of 1,2-bis(difluorophosphino)ethane
AUTHOR(S): Morse, Karen W.; Morse, Joseph G.
CORPORATE SOURCE: Dep. Chem., Utah State Univ., Logan, UT, USA
SOURCE: Journal of the American Chemical Society (1973),
95(25), 8469-70
CODEN: JACSAT; ISSN: 0002-7863
DOCUMENT TYPE: Journal
LANGUAGE: English
AB F₂PCH₂CH₂PF₂ was prep'd. by gas-phase photolysis or thermolysis at
300.degree. of P₂F₄ and CH₂:CH₂. The structure was confirmed by spectral
data, as was the structure of the 1:1 adduct with diborane.
IT 50966-32-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and spectral characteristics of)
RN 50966-32-0 CAPLUS
CN Phosphonous difluoride, 1,2-ethanediylbis- (9CI) (CA INDEX NAME)

F₂P—CH₂—CH₂—PF₂

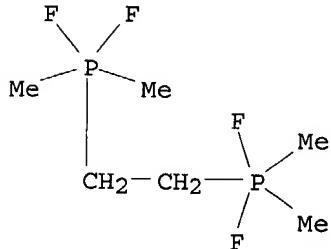
L11 ANSWER 32 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
 ACCESSION NUMBER: 1970:7180 CAPLUS
 DOCUMENT NUMBER: 72:7180
 TITLE: Mass spectroscopic studies of phosphorus-fluorine compounds. Compounds containing five-coordinate phosphorus
 AUTHOR(S): Blazer, T. A.; Schmutzler, R.; Gregor, I. K.
 CORPORATE SOURCE: Repauno Develop. Lab., E. I. du Pont de Nemours and Co., Inc., Gibbstown, NJ, USA
 SOURCE: Zeitschrift fuer Naturforschung, Teil B: Anorganische Chemie, Organische Chemie, Biochemie, Biophysik, Biologie (1969), 24(9), 1081-8
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The mass spectra (*m/e*) of 24 compds. are tabulated, along with the probable ion assignments and their relative abundances. There are 7 tetrafluorophosphoranes: FPF₄(= PF₅), MePF₄, EtPF₄, Ph-PF₄, Me₂NPF₄, Et₂NPF₄, Ph₂NPF₄; 9 trifluorophosphoranes: Me₂PF₃, Ph₂PH₃, EtPF₃NMe₂, EtPF₃NET₂, EtPF₃Q, (Q = pyrrol-1-yl), PhPF₃NET₂, PhPF₃Q, PF₃[NMe₂]₂, PF₃[NET₂]₂; 8 difluorophosphoranes: Me₃PF₂, Bu₃PF₂, Me₂PhPF₂, MePh₂PF₂, [Ph₂PF₂]₂CH₂, Ph₃PF₂, Me₂PF₂NMe₂, Ph₂PF₂NMe₂. Methylenebis[diphenyldifluorophosphorane], newly reported, was prep'd. from methylenebis[diphenylphosphine] and SF₄ in benzene, the excess SF₄ vented and NaF added, then pptd. and crystd. The compd. was characterized by elemental anal., and by N.M.R. and ir spectroscopy.
 IT 26040-41-5
 RL: PRP (Properties)
 (mass spectrum of)
 RN 26040-41-5 CAPLUS
 CN Phosphorane, methylenebis[difluorodiphenyl-, stereoisomer (9CI) (CA INDEX NAME)



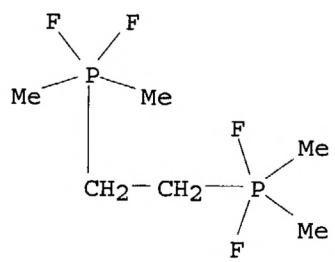
L11 ANSWER 33 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
 ACCESSION NUMBER: 1966:104419 CAPLUS
 DOCUMENT NUMBER: 64:104419
 ORIGINAL REFERENCE NO.: 64:19678f-h
 TITLE: Fluorophosphoranes
 INVENTOR(S): Schmutzler, Reinhard
 PATENT ASSIGNEE(S): E. I. du Pont de Nemours & Co.
 SOURCE: 6 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 3246032		19660412	US	19630121

- GI For diagram(s), see printed CA Issue.
- AB The title compds., useful as polymerization catalysts and as additives with fire retardant and surface modifying properties, were prep'd. from the resp. phosphine sulfides. E.g., a mixt. of 37.2 parts tetramethyldiphosphine disulfide (I) and 70 parts SbF₃ was ground in a N atm., placed in a 100 ml. 2-necked flask, and gently heated under N to yield 38.6 parts (82%) of dimethyltrifluorophosphorane, b. 62.degree.. I was prep'd. by treating PSCl₃ with the appropriate Grignard reagent. Similarly prep'd. were dibutyltrifluorophosphorane, b10 71.degree.; tetrabutyldiphosphine disulfide, m. 73-6.degree.; phenylmethyltrifluorophosphorane, b9 64.degree., n_{26.5D} 1.4646; tributyldifluorophosphorane, b0.4 71-2.degree., n_{20D} 1.4346, and n_{26.5D} 1.4318; tributylphosphine sulfide, b0.5 129-30.degree., n_{25D} 1.5011; P,P,P',P'-tetramethylethylenbis(difluorophosphorane), m. 47.1-8.4.degree.; bis(cyclotetramethylene)diphosphine disulfide (II), m. 185.degree.; bis(cyclopentamethylene)diphosphine disulfide, softening at 185.degree. and completely melted at 225.degree.; cyclotetramethylene-trifluorophosphorane, b90 61-2.degree.; cyclopentamethylenetrifluorophosphorane, b40 64-5.degree.; phenyldibutylphosphine sulfide, m. 50.5-1.5.degree.; phenyldibutyltrifluorophosphorane, b0.3 89.degree., b0.08 80.degree., and n_{24.4D} 1.5010; III, b5 100-20.degree., IV (R = S), m. 69-70.degree.; IV (R = F₂), b5 100-20.degree..
- IT 1682-01-5, Phosphorane, ethylenebis[difluorodimethyl- (prepn. of)
- RN 1682-01-5 CAPLUS
- CN Phosphorane, ethylenebis[difluorodimethyl- (7CI, 8CI) (CA INDEX NAME)]



- L11 ANSWER 34 OF 34 CAPLUS COPYRIGHT 2003 ACS on STN
 ACCESSION NUMBER: 1964:50599 CAPLUS
 DOCUMENT NUMBER: 60:50599
 ORIGINAL REFERENCE NO.: 60:8878h,8879a
 TITLE: Molecular asymmetry in the coordination of olefins to transition metals
 AUTHOR(S): Pajaro, G.; Corradini, P.; Palumbo, R.; Panunzi, A.
 CORPORATE SOURCE: Univ. Naples
 SOURCE: Makromolekulare Chemie (1964), 71, 184-8
 CODEN: MACEAK; ISSN: 0025-116X
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Evidence is given for a complex trans-[PtCl₂[(-)(S)-.alpha.-phenylethylamine](olefin)] where olefin is propylene, styrene, and cis- and trans-2-butene, possessing 2 different diastereoisomers in equil. in soln. The olefin should not contain symmetry planes perpendicular to the plane of the double bond and the olefin and optically active ligand should be coordinated to a transition metal. The prepn. is carried out through exchange in CH₂Cl₂ with the corresponding ethylene complex.
- IT 1682-01-5, Phosphorane, ethylenebis[difluorodimethyl- (prepn. and properties of)
- RN 1682-01-5 CAPLUS
- CN Phosphorane, ethylenebis[difluorodimethyl- (7CI, 8CI) (CA INDEX NAME)]



FILE 'CASREACT' ENTERED AT 11:10:43 ON 15 DEC 2003

FILE 'CASREACT' ENTERED AT 11:12:21 ON 15 DEC 2003

FILE 'BEILSTEIN' ENTERED AT 11:15:15 ON 15 DEC 2003

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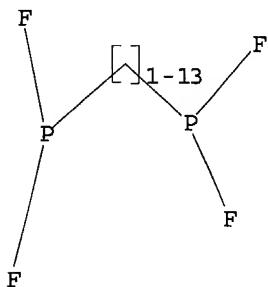
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L22 STRUCTURE UPLOADED

=> d

L22 HAS NO ANSWERS

L22 STR



Structure attributes must be viewed using STN Express query preparation.

=> s 2/p

L23 46066 2/P

=> s l23 and f/els

530531 F/ELS

L24 2866 L23 AND F/ELS

=> s l22 subset=l24

ENTER SUBSET SEARCH SCOPE - SAMPLE, FULL, RANGE, OR (END):sam

SAMPLE SUBSET SEARCH INITIATED 11:16:36 FILE 'BEILSTEIN'

SAMPLE SUBSET SCREEN SEARCH COMPLETED - 3 TO ITERATE

100.0% PROCESSED 3 ITERATIONS

1 ANSWERS

SEARCH TIME: 00.00.02

PROJECTIONS (WITHIN SPECIFIED SUBSET) :

ONLINE **COMPLETE**

PROJECTED ITERATIONS (WITHIN SPECIFIED SUBSET) :

3 TO 163

PROJECTED ANSWERS (WITHIN SPECIFIED SUBSET) :

1 TO 80

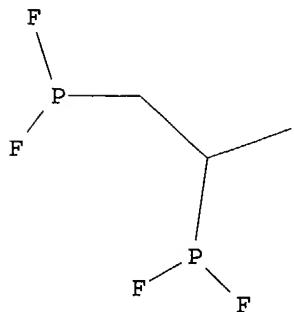
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L25 ANSWER 1 OF 1 BEILSTEIN COPYRIGHT 2003 BEILSTEIN MDL on STN

Beilstein Records (BRN) :	2234188
Beilstein Pref. RN (BPR) :	53432-50-1
CAS Reg. No. (RN) :	53432-50-1
Molec. Formula (MF) :	C3 H6 F4 P2
Molecular Weight (MW) :	180.02
Lawson Number (LN) :	3764

Compound Type (CTYPE) : acyclic
 Constitution ID (CONSID) : 2035936
 Tautomer ID (TAUTID) : 2128109
 Beilstein Citation (BSO) : 5-04
 Entry Date (DED) : 1989/06/29
 Update Date (DUPD) : 1991/01/23



Field Availability:

Code	Name	Occurrence
BRN	Beilstein Records	1
BPR	Beilstein Preferred RN	1
RN	CAS Registry Number	1
MF	Molecular Formula	1
FW	Formular Weight	1
LN	Lawson Number	1
CTYPE	Compound Type	1
CONSID	Constitution ID	1
TAUTID	Tautomer ID	1
BSO	Beilstein Citation	1
ED	Entry Date	1
UPD	Update Date	1
IR	Infrared Spectrum	1
MP	Melting Point	1
MS	Mass Spectrum	1
NMR	Nuclear Magnetic Resonance	1
VP	Vapour Pressure	1

This substance also occurs in Reaction Documents:

Code	Name	Occurrence
RX	Reaction Documents	1
RXPRO	Substance is Reaction Product	1

=>

=> d his

(FILE 'HOME' ENTERED AT 10:31:40 ON 15 DEC 2003)

FILE 'REGISTRY' ENTERED AT 10:34:58 ON 15 DEC 2003

L1 STRUCTURE UPLOADED
 L2 5 S L1
 L3 71 S L1 FULL

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L4      60 S L3 NOT N/ELS
L5      50 S L4 NOT O/ELS
L6      58 S L4 NOT ETHYNE?
L7      58 S L6 NOT ETHYNE?
L8      53 S L7 NOT S/ELS
L9      46 S L8 NOT O/ELS
L10     43 S L9 NOT B/ELS

FILE 'CAPLUS' ENTERED AT 10:39:33 ON 15 DEC 2003
L11    34 S L10

FILE 'REGISTRY' ENTERED AT 10:46:46 ON 15 DEC 2003
L12    0 S BIS DIETHYLFLUOROPHOSPHORA? ETHANE
L13    0 S BIS DIETHYLFLUOROPHOSPH? ETHANE
L14    0 S BIS DIETHYLDIFLUOROPHOSPH? ETHANE
L15    0 S BIS DIETHYL DIFLUORO PHOSPHOR? ETHANE
L16    0 S BIS DIETHYL DIFLUORO PHOSPHOR? ETH?
L17    0 S DIETHYL DIFLUORO PHOSPHORANE ETHYLENE

FILE 'REGISTRY' ENTERED AT 10:57:25 ON 15 DEC 2003
L18    2 S C10F28P2/MF

FILE 'CAPLUS' ENTERED AT 10:58:35 ON 15 DEC 2003
L19    4 S L18
L20    1 S L10 AND ELECTROLY?
L21    1 S L10 AND .OMEGA.

FILE 'CASREACT' ENTERED AT 11:10:43 ON 15 DEC 2003
FILE 'CASREACT' ENTERED AT 11:12:21 ON 15 DEC 2003
FILE 'BEILSTEIN' ENTERED AT 11:15:15 ON 15 DEC 2003
L22    STRUCTURE uploaded
L23    46066 S 2/P
L24    2866 S L23 AND F/ELS
L25    1 S L22 SUB=L24 SAM

=> s l22 subset=l24 full
FULL SUBSET SEARCH INITIATED 11:17:05 FILE 'BEILSTEIN'
FULL SUBSET SCREEN SEARCH COMPLETED - 82 TO ITERATE

100.0% PROCESSED      82 ITERATIONS
SEARCH TIME: 00.00.05          37 ANSWERS

L26    37 SEA SUB=L24 SSS FUL L22

=> s l26 not (n/els or o/els)
      5710939 N/ELS
      7711448 O/ELS
L27    31 L26 NOT (N/ELS OR O/ELS)

=> s l27 not l25
L28    30 L27 NOT L25

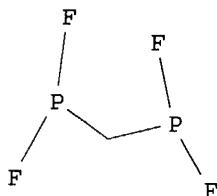
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      1 PHENYLS
      2091960 PHENYL
      (PHENYL OR PHENYLS)
L29    30 L28 NOT PHENYL

=> d ide 30

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L29 ANSWER 30 OF 30 BEILSTEIN COPYRIGHT 2003 BEILSTEIN MDL on STN

Beilstein Records (BRN) : 1920262
Beilstein Pref. RN (BPR) : 60839-30-7
CAS Reg. No. (RN) : 60839-30-7
Molec. Formula (MF) : C H2 F4 P2
Molecular Weight (MW) : 151.97
Lawson Number (LN) : 689
Compound Type (CTYPE) : acyclic
Constitution ID (CONSID) : 1759100
Tautomer ID (TAUTID) : 1836115
Beilstein Citation (BSO) : 5-01, 6-01
Entry Date (DED) : 1989/06/29
Update Date (DUPD) : 1996/08/09



Field Availability:

Code	Name	Occurrence
BRN	Beilstein Records	1
BPR	Beilstein Preferred RN	1
RN	CAS Registry Number	1
MF	Molecular Formula	1
FW	Formular Weight	1
LN	Lawson Number	1
CTYPE	Compound Type	1
CONSID	Constitution ID	1
TAUTID	Tautomer ID	1
BSO	Beilstein Citation	2
ED	Entry Date	1
UPD	Update Date	1
BP	Boiling Point	1
NMR	Nuclear Magnetic Resonance	1

This substance also occurs in Reaction Documents:

Code	Name	Occurrence
RX	Reaction Documents	2
RXPRO	Substance is Reaction Product	2

=> d his

(FILE 'HOME' ENTERED AT 10:31:40 ON 15 DEC 2003)

FILE 'REGISTRY' ENTERED AT 10:34:58 ON 15 DEC 2003
L1 STRUCTURE uploaded
L2 5 S L1
L3 71 S L1 FULL
L4 60 S L3 NOT N/ELS

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L5      50 S L4 NOT O/ELS
L6      58 S L4 NOT ETHYNE?
L7      58 S L6 NOT ETHYNE?
L8      53 S L7 NOT S/ELS
L9      46 S L8 NOT O/ELS
L10     43 S L9 NOT B/ELS

FILE 'CAPLUS' ENTERED AT 10:39:33 ON 15 DEC 2003
L11    34 S L10

FILE 'REGISTRY' ENTERED AT 10:46:46 ON 15 DEC 2003
L12    0 S BIS DIETHYLFLUOROPHOSPHORA? ETHANE
L13    0 S BIS DIETHYLFLUOROPHOSPH? ETHANE
L14    0 S BIS DIETHYLDIFLUOROPHOSPH? ETHANE
L15    0 S BIS DIETHYL DIFLUORO PHOSPHOR? ETHANE
L16    0 S BIS DIETHYL DIFLUORO PHOSPHOR? ETH?
L17    0 S DIETHYL DIFLUORO PHOSPHORANE ETHYLENE

FILE 'REGISTRY' ENTERED AT 10:57:25 ON 15 DEC 2003
L18    2 S C10F28P2/MF

FILE 'CAPLUS' ENTERED AT 10:58:35 ON 15 DEC 2003
L19    4 S L18
L20    1 S L10 AND ELECTROLY?
L21    1 S L10 AND .OMEGA.

FILE 'CASREACT' ENTERED AT 11:10:43 ON 15 DEC 2003
FILE 'CASREACT' ENTERED AT 11:12:21 ON 15 DEC 2003
FILE 'BEILSTEIN' ENTERED AT 11:15:15 ON 15 DEC 2003
L22    STRUCTURE uploaded
L23    46066 S 2/P
L24    2866 S L23 AND F/ELS
L25    1 S L22 SUB=L24 SAM
L26    37 S L22 FULL SUB=L24
L27    31 S L26 NOT (N/ELS OR O/ELS)
L28    30 S L27 NOT L25
L29    30 S L28 NOT PHENYL

=> s l10
L30    20 L10

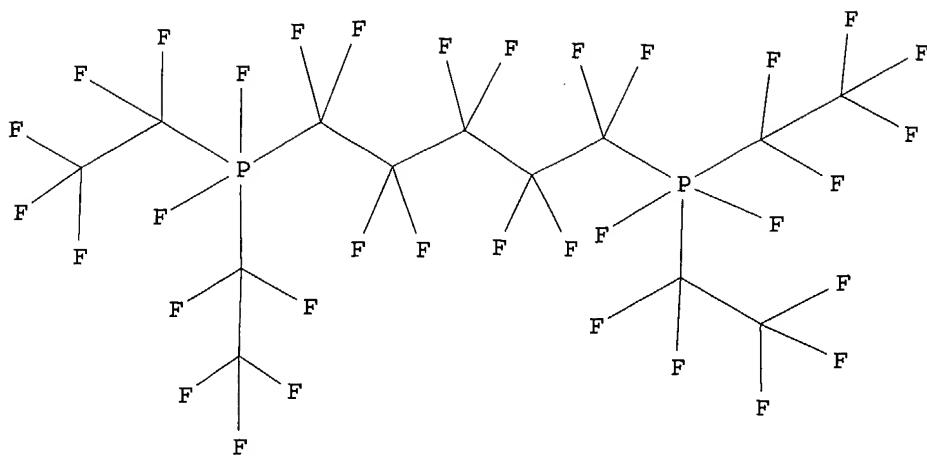
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L31    13 L29 NOT L30

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L31 ANSWER 1 OF 13 BEILSTEIN COPYRIGHT 2003 BEILSTEIN MDL on STN

Beilstein Records (BRN) : 8605815
Molec. Formula (MF) : C13 F34 P2
Molecular Weight (MW) : 864.04
Lawson Number (LN) : 1543, 1158
Compound Type (CTYPE) : acyclic
Constitution ID (CONSID) : 7292920
Tautomer ID (TAUTID) : 8094695
Entry Date (DED) : 2000/10/24
Update Date (DUPD) : 2000/10/24

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Field Availability:

Code	Name	Occurrence
BRN	Beilstein Records	1
CN	Chemical Name	1
AUN	Autonomname	1
MF	Molecular Formula	1
FW	Formular Weight	1
FBRN	Fragment BRN	2
LN	Lawson Number	2
FS	File Segment	1
CTYPE	Compound Type	1
CONSID	Constitution ID	1
TAUTID	Tautomer ID	1
ED	Entry Date	1
UPD	Update Date	1
NMR	Nuclear Magnetic Resonance	3

This substance also occurs in Reaction Documents:

Code	Name	Occurrence
RX	Reaction Documents	1
RXPRO	Substance is Reaction Product	1

=> d rxpro

L31 ANSWER 1 OF 13 BEILSTEIN COPYRIGHT 2003 BEILSTEIN MDL on STN

Reaction:

RX

Reaction ID (.ID) : 8553814
 Reactant BRN (.RBRN) : 1746237
 Reactant (.RCT) : 1,5-bis-diethylphosphino-pentane
 Product BRN (.PBRN) : 8605815
 Product (.PRO) : C13F34P2
 No. of React. Details (.NVAR) : 1

Reaction Details:

RX

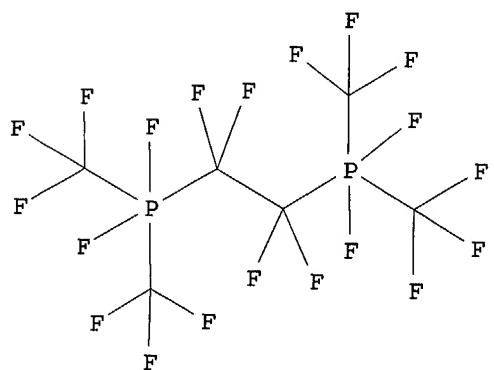
Reaction RID (.RID) : 8553814.1

Reaction Classification (.CL) : Preparation
 Reagent (.RGT) : F2
 Solvent (.SOL) : various solvent(s)
 Time (.TIM) : 12 hour(s)
 Temperature (.T) : -60 Cel
 Reaction Type (.TYP) : Fluorination
 Reference(s) :
 1. Kampa, J. J.; Nail, J. W.; Lagow, R. J., J.Fluorine Chem., CODEN:
 JFLCAR, 102(1-2), <2000>, 333 - 336; BABS-6244086

=> d ide 2

L31 ANSWER 2 OF 13 BEILSTEIN COPYRIGHT 2003 BEILSTEIN MDL on STN

Beilstein Records (BRN) : 8594068
 Molec. Formula (MF) : C6 F20 P2
 Molecular Weight (MW) : 513.98
 Lawson Number (LN) : 1763, 1518
 Compound Type (CTYPE) : acyclic
 Constitution ID (CONSID) : 7283815
 Tautomer ID (TAUTID) : 8072949
 Entry Date (DED) : 2000/10/24
 Update Date (UPD) : 2000/10/24



Field Availability:

Code	Name	Occurrence
<hr/>		
BRN	Beilstein Records	1
CN	Chemical Name	1
AUN	Autonomname	1
MF	Molecular Formula	1
FW	Formular Weight	1
LN	Lawson Number	2
FS	File Segment	1
CTYPE	Compound Type	1
CONSID	Constitution ID	1
TAUTID	Tautomer ID	1
ED	Entry Date	1
UPD	Update Date	1
NMR	Nuclear Magnetic Resonance	3

This substance also occurs in Reaction Documents:

Code	Name	Occurrence
RX	Reaction Documents	1
RXPRO	Substance is Reaction Product	1

=>

=> d frxpro

L31 ANSWER 1 OF 13 BEILSTEIN COPYRIGHT 2003 BEILSTEIN MDL on STN

Reaction:

RX

Reaction ID (.ID) :	8553814
Reactant BRN (.RBRN) :	1746237
Reactant (.RCT) :	1,5-bis-diethylphosphino-pentane
Product BRN (.PBRN) :	8605815
Product (.PRO) :	C13F34P2
No. of React. Details (.NVAR) :	1

Reaction Details:

RX

Reaction RID (.RID) :	8553814.1
Reaction Classification (.CL) :	Preparation
Reagent (.RGT) :	F2
Solvent (.SOL) :	various solvent(s)
Time (.TIM) :	12 hour(s)
Temperature (.T) :	-60 Cel
Reaction Type (.TYP) :	Fluorination
Reference(s) :	
1. Kampa, J. J.; Nail, J. W.; Lagow, R. J., J.Fluorine Chem., CODEN: JFLCAR, 102(1-2), <2000>, 333 - 336; BABS-6244086	

=> d frxpro 2

L31 ANSWER 2 OF 13 BEILSTEIN COPYRIGHT 2003 BEILSTEIN MDL on STN

Reaction:

RX

Reaction ID (.ID) :	8553194
Reactant BRN (.RBRN) :	1732994
Reactant (.RCT) :	1,2-bis-dimethylphosphino-ethane
Product BRN (.PBRN) :	8594068
Product (.PRO) :	C6F20P2
No. of React. Details (.NVAR) :	1

Reaction Details:

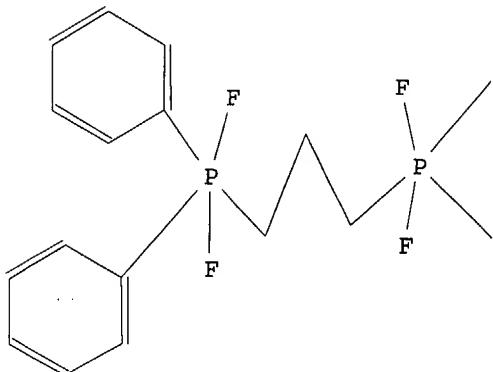
RX

Reaction RID (.RID) :	8553194.1
Reaction Classification (.CL) :	Preparation
Reagent (.RGT) :	F2
Solvent (.SOL) :	various solvent(s)
Time (.TIM) :	12 hour(s)
Temperature (.T) :	-60 Cel
Reaction Type (.TYP) :	Fluorination
Reference(s) :	
1. Kampa, J. J.; Nail, J. W.; Lagow, R. J., J.Fluorine Chem., CODEN: JFLCAR, 102(1-2), <2000>, 333 - 336; BABS-6244086	

=> d ide 13

L31 ANSWER 13 OF 13 BEILSTEIN COPYRIGHT 2003 BEILSTEIN MDL on STN

Beilstein Records (BRN) : 2766916
Molec. Formula (MF) : C17 H22 F4 P2
Molecular Weight (MW) : 364.30
Lawson Number (LN) : 16731, 3763, 3761
Compound Type (CTYPE) : isocyclic
Constitution ID (CONSID) : 2504081
Tautomer ID (TAUTID) : 2616441
Beilstein Citation (BSO) : 5-16
Entry Date (DED) : 1989/07/11
Update Date (DUPD) : 1989/07/11



Field Availability:

Code	Name	Occurrence
<hr/>		
BRN	Beilstein Records	1
MF	Molecular Formula	1
FW	Formular Weight	1
LN	Lawson Number	3
CTYPE	Compound Type	1
CONSID	Constitution ID	1
TAUTID	Tautomer ID	1
BSO	Beilstein Citation	1
ED	Entry Date	1
UPD	Update Date	1
MP	Melting Point	1
NMR	Nuclear Magnetic Resonance	1

This substance also occurs in Reaction Documents:

Code	Name	Occurrence
<hr/>		
RX	Reaction Documents	1
RXPRO	Substance is Reaction Product	1